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ABSTRACT

A conference was held to review the current state of audience measurement methods and technology. The four sessions ranged from the morality of broadcasters, to the adequacy of education, to the practicality of knowledge in related fields of psychology, to the state of the art in communication and measurement technology. Many hours of discussion and interchange are summarized. (WCM)

ED 092171

AUDIENCE ANALYSIS CONCEPTS EXCHANGE

Conference Summary

U S DEPARTMENT OF HEALTH
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The many hours of discussion and interchange can be summarized briefly:

1. The methods and hardware technology to undertake serious audience research for 6 to 11 year olds presently exists.

2. Specific information gathered in practical situations, and general knowledge about human behavior which can be used to generate guidelines and hypotheses concerning the impact of television, presently exists.

3. There are limitations in analytic developments (e.g. how to use the information available. Can form and content be separated?). Which factors are clearly individual and senseless to use as predictors, and so forth?

4. There are limitations in information exchange. Both private and public organizations tend to restrict the availability and dissemination of information. However, some leaders in research which may be available are NIMH, the Department of Defense, various large advertisers, the networks and possibly the Office of Education.

5. There is no forum for dissemination of information. Audience research has not been received as a science or a technology, and the "experts" we gathered would not have been in the same room without the conference. Yet, the mass media impacts every American and people all over the world. A letter received from Germany referred to the session as the first "Annual Conference on Audience Research".

6. Audience research cannot remain local. That would be like heart surgeons not sharing information on successes and failures.

7. The Office of Education needs to participate in audience research since the issue is one of using television as a communication device. Communication, and knowledge of its impact are at the crux of education.

8. Small broadcasters, small production groups and public television do not have the resources necessary to mount a full scale research program. Similarly, it is wasteful for others to reinvent the wheel.

IR 000 736

9. Audience research is focused on utilization. It is not basic research; rather, it is research with directly measurable application. Therefore, given "seed" monies, this type of research can have direct and meaningful payoff in:

   - better education

   - greater advertising dollars

   - reduced fear of the impact of the "tube".

10. The conference participants represented several areas of knowledge and expertise. The recommendations indicate this broad focus. In addition to invited participants, the conference at several points had active participation from the observers. The greatest portion of these observers were from related interest groups in the Office of Education, but they also included individuals from the Federal Communications Commission and the broad cast community. The list of participants are as follows:

Dr. Marvin Ack, Director School of Mental Health, Menninger Foundation

Dr. B. Allen Benn, Vice President, Unco, Inc.

Dr. Jack Bond, Research Director, Computer-Based Project Syracuse City School District

Mr. William Clendenon, Communications Consultant

Dr. William G. Darnell, President, Unco, Inc.

Dr. Paul Ekman, Professor in Residence, Department of Psychiatry, School of Medicine, University of California

Dr. Clarence Fogelstrom, Educational Program Officer, Media Specialist Program, Division of Educational Technology Bureau of Libraries and Educational Technology, U.S. Office of Education

Mr. Harry Francis, Director of Program Services, Meredith Broadcasting, Meredith Corporation

Mr. Frank Furbush, Director of Corporate Planning and Vice President, Meredith Broadcasting, Meredith Corporation

Dr. Bernard Friedlander, Professor, Department of Psychology, University of Hartford

Mr. Richard Gideon, Vice President and Director of Research, Blair Television

Mr. Gordon Herring, Vice President and Director of Research, Telecable Corporation

Dr. Harold Katz, President, Vicom Industries, Inc.

Mr. Colin MacAndrew, Consultant in Educational Technology, Media Utilization and Systems Design

Dr. William Millard, Chief, Latin American Research, United States Information Agency

Mrs. Tinka Nobbe, Program Officer, Office of Public Broadcasting, Ford Foundation

Dr. Ed Palmer, Director of Research, Children's Television Workshop

Mr. Joseph Spaid, Educational Technology Specialist, Computer-Based Project, Syracuse City School District

Dr. Percy Tannenbaum, Graduate School of Public Policy Professor, University of California at Berkeley

Names and addresses of observers participating in conference discussions will be furnished upon request.

11. The general dynamics of the conference were, by design, initially focused with increasing narrowing of discussion. Other than selected presentations used to initiate discussion on present techniques or issues, the conference was an open forum. The opening sessions ranged from the morality of broadcasters, to the adequacy of education, to the practicality of knowledge in related fields of psychology, to the state of the art in communication and measurement technology.

It closed after the fourth session with a series of recommendations which are as follows:

A. Establish a permanent forum. This should take the form of an association or institute responsible for gathering and disseminating information concerning methods, research results, hardware, and theoretical/philosophical discussions.

B. Move toward a theory of audience research. Discussions of methodology, research techniques, and data collection become confused with varying definitions of purpose and varying opinions on procedure such as how to separate form and content.

C.1. Focus upon the 6 to 11 year old and his maturation characteristics, relying heavily upon the experts in this area who have gained some practical experience with the media or education.

2. Obtain and analyze the extensive longitudinal data available to the larger broadcasters.

3. Following the recommendations of Dr. Ack, support some in-depth research involving long-term studies of a small group of children.

4. Examine in more detail some of the existing methods such as Playtest, Distractor Analysis, and the Program Analyzer, all of which have apparent similarities, and determine what they are and are not measuring.

5. Define the needs for audience research in terms of specific questions or concerns facing the on-line producer of the program.

Audience Analysis Conference
October 7 & 8, 1971

WILLIAM G. DARNELL:

I think we should get started since we have only two days and in those two days we have to define a focus and, hopefully, come up with some recommendations, conclusions and suggestions for the various interested parties at our conference. I would like to thank all of you for coming. We called the conference Audience Analysis, A Concepts Exchange mainly because audience analysis is a vague area and can be defined differently by any one person. The conference is sponsored jointly by the Office of Education, Meredith Broadcasting, Blair Television and Children's Television Workshop, all of whom are interested in the subject of Audience Analysis.

At this point, we might try and run through where we are going the next couple of days, which may explain why this particular collection of people has been put together. We have some people here whose specialities are in the fields of psychology, sociology, medicine and psychiatry. There are some people here who specialize in hardware technology, some people whose area is broadcasting and related production.

This morning we will have three people open the discussion for us. I would like to encourage all of you to participate because this is not a symposium and not a seminar in the formal sense, but a working session. We have asked Harry Francis from Meredith Broadcasting to set a base for the discussions to follow and from the point of view of the user; in other words how the user views Audience Analysis, what his needs are, what elements are present or lacking in current present approaches or techniques, and, in short, what should the focus be in the future? In other words, what are the problems that we are going to be facing and trying to resolve over the next two days?

We have also asked Dr. Ack from the Menninger Clinic to discuss our target group, the 6 to 11 year old, mainly because some of us are not that familiar with our audience. For example, how does the 6 to 11 year old respond and behave? Dr. Ekman, from the University of California can also throw out some comments on this subject. Having discussed the user of audience analysis techniques, that is the user as far as production people are concerned and the audience of 6 to 11 year olds, there is still another area that we want to cover. This is the area of technolcgy, what we have in terms of hardware and the capability of that hardware, particularly in the telecommunications field. We will focus on those capabilities which might relate to developing audience analysis, audience measurement, or audience research methodology.

Dr. Katz from Vicom will speak to us on this subject, and Bill Clendenon will follow with general comments.

We have with us some observers who come from the Office of Education and other agencies and organizations. As we progress I am sure they will begin to chime in and by the second day, hopefully, will be indistinguishable from the participants.

At this point, Harry, I would like to turn it over to you.

HARRY FRANCIS:

Children's programming on television is a subject of much discussion and little action. Such questions as, what is good, what is bad, what is violent, what is educational, what is stimulating, what is dull, what is right, are constantly being asked.

Today at this conference we will not sit in judgment of the industry or its programming. We do know, however, that much of the industry's best efforts to date have been performed for virtually nonexistent audiences. Remember "Hot Dog"? It was an admirable program with an unadmirable number of people in its audience.

Must there be a disparity between good quality programming and large audiences? As most professional television programmers know, there usually is. We know that "Curiosity Shop", "You Are There", "Mr. Wizard", "Make a Wish", and "Take a Giant Step" will leave us with a nice, warm feeling but undoubtedly have few viewers. This discouraging state also includes Meredith Broadcasting's own group produced program, "Hello, World". Thus, so-called "better programs" attracting smaller audiences are faced with two very critical problems. First, they are naturally more expensive to produce; and second, they are more difficult to sell to advertisers since the programs traditionally do not have large ground swells of audience viewership.

Well, how do we break the cycle? By training and developing the young mind into the acceptance of more provocative forms. As they grow up with it they will become more demanding and the arts will rise to the demand. Can young viewers be motivated, instructed and attracted to such program forms? I contend that they can. Television, the youngest medium of communication, is now painfully passing through adolescence. Its many potentials still remain unlearned and unexplored. We know that it can motivate and that it can stimulate; and yet, we do not know exactly how. With all the aural and visual skills that the industry now commands, we can attract and motivate selected target audiences. But we must learn more about how to use these skills.

One purpose of our meeting here in the next two days is to explore those methodologies that might be used to determine how and why children respond to and are motivated by various

aural and visual stimuli as witnessed on our present television system. Our previous efforts in this area have been largely trial and error. We in commercial broadcasting have measured our successes only by mass audience figures and by the buying habits of our viewers. Our educational counterparts have measured their successes by testing television students in comparison with non-television controlled groups. I think we have both been guilty of measuring the whole without looking at the part. We must, to be successful in controlling and motivating responses, know exactly how our audiences react to specific program and production techniques. Armed with this knowledge (I call it the split-atom) we can then use it to attract, hold, motivate and educate our young viewers.

When our survey is complete, we plan to share it freely with the broadcasting industry with the only admonishment that it be used to improve the quality of programming for children. Education by television can be alive, stimulating, vibrant, and rewarding for those that we serve. Drawing to the medium large and responsive audiences, we can then also attract and serve those commercial sponsors who are dedicated to the development of the young mind. We in television must learn more about how we can do our job better--the art must continue to grow; and we depend upon you to assist us in this very first important step.

WILLIAM G. DARNELL:

Could you expand for a moment into another area? What you have said is along the lines of my own thinking, and yet, as we review the field of audience measurement and the existing organizations calling themselves "audience analysts" there was still very little information regarding what you have discussed. Maybe we could talk more specifically about the kinds of information we are seeking and perhaps why this information is so difficult to obtain.

HARRY FRANCIS:

I think that one of our problems is that we know the production techniques that go into programming for children; we know that children respond in certain ways to animation; we know that children, and all viewers, respond in certain ways to various colors in the spectrum; but we do not know, and we are really just grasping in the air right now, how we can specifically motivate a child to do or perform a particular action. Much of the educational stuff that we have seen on the air has been very bad, very dull. I don't think it need be. I think we can develop new techniques that will keep the kid to television and continue to develop new and more viable audiences than we now have, but we have got to know more about techniques. We have got to know more about how this viewer, this young child responds to the various stimuli we throw out before him. And the only way we have ever measured it before, as commercial broad-

casters, is a popularity poll. We haven't really gotten into the guts of how and why a child responds to various stimuli and this includes violence, non-violence, all the elements of social strata that are performed for the child. We don't know, and we need to know.

MARVIN ACK:

I'm not sure I quite understand what you mean by "respond". Respond in what way? What way are you looking for?

HARRY FRANCIS:

I am looking for ways that a child can be not only entertained but educated, and not become so really withdrawn from television as many children are today. They are turning us off. They are turning us off because we have nothing to say. We have no really strong message to keep them to us.

PERCY TANNENBAUM:

This is bad, then?

HARRY FRANCIS:

I think it is because I think we've got a superb medium of communications. I think we've got a fantastic way to motivate people and we are not using it to its fullest potential.

WILLIAM MILLARD:

What age group are we talking about when you say "turning T.V. off"?

HARRY FRANCIS:

The 6 to 11 year olds.

BERNARD FRIEDLANDER:

I think we ought to put in the record the very legitimate observation that maybe if we got more of them to turn it off more we might be obtaining a useful objective.

HARRY FRANCIS:

How do you mean?

BERNARD FRIEDLANDER:

Well, I mean there's a large majority of us professional people that discourage our kids from seeing T.V. too much in the conviction that we are doing the best thing for them.

HARRY FRANCIS:

As a parent, I couldn't agree with you more.

WILLIAM G. DARNELL:

Is that because of the quality of programming or is that because of the vehicle itself?

BERNARD FRIEDLANDER:

Well, I think both. I just don't want it to go unchallenged in the record that our objective is to get children to watch more T.V.

HARRY FRANCIS:

I don't think that is what I said.

HAROLD KATZ:

One of your objectives is to attract children to the use of the medium as a source of education. In all education, however, we have a relationship between a teacher and a student. There is an interactive involvement, and perhaps one of the difficulties with television is that it is missing the key ingredient in respect to education. There is a lack of involvement of the viewer himself. Therefore, there is an element of passivity.

HARRY FRANCIS:

I think that is very true. We know that television, for example, can stimulate the viewers. If they are properly stimulated this can make them go to outside sources for additional information. But we are not hitting this whole enrichment area as we should. What we as program producers put on is dull.

PAUL EKMAN:

I think I know what you mean when you talk about the lack of involvement, the lack of another person present to relate to is certainly there. But this may have nothing to do with involvement or arousal in general, or what makes a person form some durable relationship which may or may not affect the immediate emotional experience. In fact, I think films can evoke considerable emotional experience in terms of immediate arousal without the presence of another person.

HAROLD KATZ:

Let me modify what I implied. Obviously there is an emotional involvement when one is watching any visual image, but the ability to respond to it in some productive manner within the present method of distributing television programs...

WILLIAM MILLARD:

What are the kinds of programming where viewing has fallen off most? In other words, if viewing has fallen in the 6 to 11 year age group, has it fallen off across the board, or have certain types of programming suffered more than others? What's the basis of your comment?

HARRY FRANCIS:

Viewing - it's not has fallen off. It's never been strong in the area of educational programming, or what we call enrichment programming.

WILLIAM MILLARD:

So you are not talking about commercial programming.

HARRY FRANCIS:

I am talking about that. I am talking about programs like "Curiosity Shop" and "Hot Dog" which were cancelled because there were just not enough kids out there that were watching it. It was a fine show.

LILLIAN AMBROSINO: (Observer)

But it wasn't given a chance. It died, which is another part of the problem.

HARRY FRANCIS:

That's right. But you see, we are in a strong commercial world and at no time has anybody ever said that it is a sin to be a capitalist, and we are capitalists, and we would like to make a profit for the people we work for.

WILLIAM G. DARNELL:

Taking it out of the realm of commercial -- we are talking about the identical problem that people in educational stations and public broadcasting discuss. We are talking to a commercial person and it is coming out as a commercial question. However, television is a medium of communication being used to educate, and the educator is having the same problem.

CLARENCE FOGELSTROM:

Very much so. The early programming that was done very often used the format of the lecturing classroom teacher. A video tape was made and there was really no visual stimulation brought out in the presentation. There were just canned lectures. Educational television is getting away from that, or instructional television to a certain extent, but you still see it going on outside of some of the more creative educational programming. I would think

that Sesame Street would not be classified as instructional television in the form that we normally think of for instructional television.

JACK BOND:

We are talking about television, but I think the same thing is true of the visual experience in a classroom, whether we are talking about films or filmstrips or the like. Many teachers find it too much trouble to obtain a film on some given topic, set it up and run it for the kind of experience it might be in a classroom, and therefore, the teachers just go ahead and lecture on the topic or do something else. So I think we have an instructional model, the lecture method, that we are really pounding things against.

We would really like to see and work within a Socratic type of operation with these youngsters, but we are really hung up with the same kinds of questions that Mr. Francis has asked in terms of the film presentation itself. We don't know why we show a film on bees for example, and yet we're talking about bees. But we really haven't made any major discoveries as to what that particular experience contributes to that child's educational endeavor.

HARRY FRANCIS:

On that very film on bees, I would, for example, like to know how a child responds to an extreme close-up of a bee as opposed to a medium shot. I would like to know how a child responds to an animated sequence of a bee's wings moving as opposed to a slow motion videotape of a live bee. What is the response? Which one is best? And that is what I would like to see us eventually get into.

MARVIN ACK:

You can answer the first part of that question. what is the response? But to answer which is best demands a different set of criteria and a long period of time if you are really talking about education. You may be able to determine how a child responds to the various visual shots, but the utilization of that response and the ability to grapple with problems as they arise, I don't know how in the world you can say that that occurs at this moment.

HARRY FRANCIS:

I think we are willing to spend some time on it. It's long overdue.

LILLIAN AMBROSINO:

The problem is that you are putting the cart before the horse, it seems to me. What you're asking are perfectly legitimate questions. What you hope, I think, is that the sum of the parts is going to be bigger than the whole, and I don't think that is really what is happening. I

think the entire industry, both commercial and public, has not really determined just what it is that children might need from television and what it is that television might be doing for children.

You should be very cautious when using the words education and entertainment. You were quite ambivalent about calling Sesame Street a poor instructional program, and that is really what it is. It just instructs in a very entertaining way and similarly, entertaining programs educate in their own subtle way. So I think that before we go into the specifics of the response, (and there has been some research done on this in Europe) we might want to consider what it is that the industry can do for kids?

HARRY FRANCIS:

I think that is another whole project. Once we come up with the end of this road - a set of tools to use, the educational people will use it one way and the commercial broadcasters will use it and interpret it within their particular frame of reference. We will then look at other studies that have been done and are being done right now as to what children need. I think we'll clutter our goals if we get into a discussion of what children need or what children want from television.

LILLIAN AMBROSINO:

But what good are the tools if we don't know the goals? Supposing we were to tell you that kids like animation, which we know, and younger kids prefer close-ups, which we know, and all the rest of it. Then where are we?

HARRY FRANCIS:

Then we take this, and we interpret it in the light of other studies that have been made, and mix the two together and come up with a product that is usable and the kid will respond to.

WILLIAM G. DARNELL:

The question has come up; what is television to the kid, or, what is the role of television in terms of the kid? This gets into the whole question, "Who is the 6 to 11 year old"? Therefore, I'd like to shift at this point to Dr. Ack who has agreed to discuss this very subject and give him the floor for five or ten minutes.

MARVIN ACK:

I think it is rather presumptuous of this group to say what a 6 to 11 year old is really like. You in many respects may know better than I. I am a child psychoanalyst and deal mostly with psychopathological conditions, although I am also a consultant to various schools. So just from what has emerged, I would like to talk a few minutes about some of the things which I think may be some

of the inherent problems in what we are attempting to do.

I agree wholeheartedly with Miss Ambrosino. I find it difficult to understand how we can have a conference on audience measurement without knowing what the goals of the industry are; the goals of a specific show. I didn't understand and have been asking whether this was related to a specific show, like The Electric Company. I was told it was not. But children at this age are extremely active and extremely mobile. This becomes a very, very important issue because television is a very, very passive medium. In many respects, what you do in television is directly contradictory to the needs of children. For example, take an eight year old boy who is desperately interested in football -- he is now becoming aware of football and will run out at the drop of a hat to play football, but will not spend two minutes watching football, particularly if there is a chance to play. One of the reasons young people are turning away is that it is a passive experience. People talk about teachers in this respect. We have pre-determined how a certain medium is to be used. For example, I consult with a college for nursery school teachers which is associated with a television company. They produced a film called "Water is Wet". Fifty-four minutes. The film has as its purpose to motivate rather than instruct. It is an absolutely magnificent film. There must be 40 different little segments about water. I personally have gone around and shown that film to 200 teachers and every teacher says exactly the same thing: "It's a marvelous film after three minutes." It never occurred to that teacher that a film in a television show has a beginning, a middle and an end. And 54 minutes turns the kid off. Absolutely. We knew that when we made it. But there was enough to motivate a child and to keep a child active. But the teachers didn't perceive this.

I think that one of the things that one would try to do in a television show of this type would be to motivate rather than instruct. And that is one of your problems because you motivate a child to do something and then you must keep that child active for another 27 minutes because program timing is such that the show has got to be a minimum of a half an hour, or something of this nature. I think that what we need to do well is to define, specifically for this group, what we mean by education.

I also agree with you wholeheartedly that there is not the involvement with a specific individual. For example, we know the lower socio-economic groups watch television considerably longer, or for more time per day than do their middle or upper class counterparts. Their English is generally not the King's English. One wonders why? They hear it much more than does the middle class child. But they don't identify with that individual on television. He is not important enough for that child to emulate. Rather, he emulates the mother or the father, for example, so that in order for education to occur, there has to be some

meaningful human relationship. I don't know how one does that in television. You would know that much better than I. Maybe somebody, some of the television performers, can create that kind of thing.

In order for education to occur, the material has to be relevant to the life of the child. In order for education to occur the child has to be active. Education is an active experience. Learning is an active experience. The problem with our public schools for example, is that we have kept kids passive. We have told them that to tell somebody something is equated with learning, which of course, it is not. In order for learning to occur, the material and the experience has to be a pleasurable experience. This is where I think we probably have a greater advantage than almost any other medium, and to an extent, it is pleasure.

The other thing that I would like to stress a little bit is the importance of playing. Play utilizes all the principles that I have previously mentioned. It is a way for the child not only to master past conflicts, but to try out new social roles. There is concrete example: if a four or five year old kid goes to the doctor for a check-up, or comes to me, something of this nature, then one says "Gee, he hasn't been here for a long time and as long as he's here, I might as well give him a booster shot", for which the child was unprepared. This becomes somewhat traumatic. If you then watch that child in the neighborhood, he immediately starts playing doctor, or at least he plays giving shots. Maybe playing doctor is a different game I guess. But he starts giving shots to all the kids in the neighborhood. This is his way of working out past difficult experiences and it is, of course, what we use in therapy. But at the same time, play allows the child to utilize or to try out new social roles and to try out new cognitive learnings to investigate and explore his world. The greatest difficulty I find for television, in terms of personality development, is that television demands that you become passive. I think this robs the child of the very mechanism he has for adjustment. This concerns me as a therapist or a child analyst.

PERCY TANNENBAUM:

May I ask a question, Dr. Ack? The term "passive", as with many other terms we have used so far in this short period, are easy to use and hard to define. It is almost a blanket statement. "Television per se is passive," meaning that the child does not actively engage in behavior other than opening his eyes and sitting in a vertical position. Is it "passive" in that sense, or is it "passive" in the sense of the non-interaction which presumably goes on in the classroom? What are the limiting conditions to a passive versus a non-passive statement?

MARVIN ACK:

I think it is passive in almost a total fashion in the sense that is doesn't ask the child to intellectually grapple with the task. Television doesn't ask, although the child may do it.

PERCY TANNENBAUM:

The medium per se, or what has gone on till now has by and large asked the child to intellectually "grapple"?

MARVIN ACK:

What has gone on until now.

PERCY TANNENBAUM:

We are talking about the programming and not necessarily the characteristics of the medium per se. It is very important to make that distinction, please.

HAROLD KATZ:

I think the medium plays a very strong role in passive versus active involvement.

PERCY TANNENBAUM:

Given that medium, it must be passive.

HAROLD KATZ:

I think the subject of the discussion in technology is how to change that relationship.

MARVIN ACK:

I'm sure there must be creative ways in which it can be done, but I am speaking of it as it is now. The child is not asked to do anything physically, nor is he asked to do anything mentally.

WILLIAM G. DARNELL:

Can we trade mental activity for physical activity and make it acceptable to the child and relevant to the child?

PERCY TANNENBAUM:

Pure expressed mental activity would not necessarily be passive.

WILLIAM G. DARNELL:

Let's suppose he is sitting there rigid in front of his set. Could we create a situation where he could have intense mental activity?

MARVIN ACK:

Yes.

PERCY TANNENBAUM: (to Ack)

How did we get to be so smart, you and I? We had equally passive experiences and other active experiences. We learned a lot by the same way without engaging in the same kind of activity that we are now deploring.

MARVIN ACK:

I think it is a rather loaded question. If I can ask you to recall or think of what you know that is most important to you, or where you learned it, you didn't learn it in school. You didn't learn it from the host of thousands of passive experiences to which you were exposed. You learned it because of an active interest and a grappling with the environment and people and conflicts and problems. We know that industry knows very, very well that schools don't train people well for that particular industry and they would prefer to train them themselves. If you had the experience of trying to change a system so that you now give the students the responsibility for their learning, you would be shocked at the kind of conditioning that has taken place and the inability of people in our society to make choices or to think rationally.

PERCY TANNENBAUM:

There were some positive inputs in my life, without television and within a school system that was worse in many ways. I am going to share with everybody decrying the present school system, but I'll decry more the one I grew up in.

BERNARD FRIEDLANDER:

There is a fine distinction we are overlooking. That is the distinction between broad brush and fine grain. Fine grain learning may require involvement, but broad brush behavioral modeling may perfectly well be carried on by a passive observer. I am not disagreeing with you, Marvin, I am extending the range. I think we can find kids finding models for their broad brush game play -- playing detective, and cowboy and indians, and riding the horses and falling off the horses the way they see on television.

PERCY TANNENBAUM:

But even fine grain, too?

BERNARD FRIEDLANDER:

Some fine grain activity, but more likely the broad brush; the social behavior model may be more easily transmitted by a passive medium than certain fine grain cognitive operations.

PERCY TANNENBAUM:

I'm not sure.

BERNARD FRIEDLANDER:

Well, anyway, the distinction is worthy of further note so we won't put everything in one bucket and then divide up the bucket.

PAUL EKMAN:

I want to seek a distinction. We're discussing the notion of passivity in television as a medium and the notion of mental activity or a lack of mental activity. I think there is a distinction between mental activity and physical activity. I am certainly not at all convinced from looking at some video tape of kids while they watch television that they are physically inactive. We see a lot of moving around, more in the eight and nine year olds when they watch, than in the five year olds.

MARVIN ACK:

But is the physical activity related to the content of the performance?

PAUL EKMAN:

Some of it is.

MARVIN ACK:

Sometimes it is tension and anxiety.

PAUL EKMAN:

Well, I don't know. Sometime we see that they are repeating the action they have seen: somebody shoots somebody and they go bang, bang, bang. Sometimes they are tense or whatever. But often it is mental activity. This is harder to read. It seems to me it is easy to make the mistake of presuming that there is mental passivity, at least when I think of the different aspects of mental processes, For example, when I think about information acquisition, that is the acquisition of new information, it is hard to know whether it is occurring or not, but if a particular program is providing new information, is it getting into the system? Emotional activity: is there some kind of strong emotional outlet of one kind or another? Fantasy activity: is there activity of one kind or another? It may be in no way related

to emotional activity. In fact, problem solving, either the acquisition of new problem solving skills or engaging in problem solving activity -- in all of these you can have a little or a lot of mental activity. The other problem it seems to me, is that both methodologically and conceptually there is the temptation to think of the television experience in terms of what occurs simultaneously with it, rather than in terms of any kind of "after experience" or "working through" and I don't really know the extent to which there is any spacing. That is, do children sit there glued for hours? And if so, where does the "after experience" occur? Or is there really enough of a measure of these things so that you could see some of these things or not see, expect some of these things to occur not necessarily at the moment of programming but at some point thereafter. I guess I am raising problems about assuming that the mental level is necessarily passive. To multidimensional activity it seems you can be passive on one of these things perhaps, and not the other.

HAROLD KATZ:

The question was asked before why were we able to learn before television. We may want to go back continuously in time and ask why we were able to learn before radio. Obviously people continuously learned no matter what their surroundings were. Each time a new technology is introduced though, it tends to change part of the problem. The question is not that T.V. itself is bad, but the nature of the medium may force you to learn in different ways. Not that it is good or bad. People learn under any set of conditions. The problem now is how to learn to use the technology that is introduced. Before television we gained much information by firelight and matches; we learned how radio can distract the children, etc. and I think this is the McLuhan thesis -- the medium itself introduces a dynamic which has to be taken into account, but the same set of questions that were asked in today's discussion could have been asked at every introductory level in new techniques.

WILLIAM G. DARNELL:

We have taken a brief look at the developmental point of view of the child between the ages of 6 and 11. I guess I am looking for an answer when there isn't one, but either mentally or completely, as we relate to this development, can we somehow define the stage that he is in as he is passing through this age period of 6 to 11?

MARVIN ACK:

I don't know if I could answer that specifically, but the six year old child has just come out of the immediate confines of a family with all its highly charged emotional entanglements, etc. He is now becoming capable of much more logical thinking and is trying very hard to expand his world. He becomes considerably more gregarious than he ever has been, and in a very very important way. That

is, it becomes necessary for this child to have social contact which is, of course, another difficulty that the television medium faces. That is, very often just the child and his immediate family are watching television which replaces that particular opportunity to play with groups of children. He is a very social being. He learns about the world by sharing his fantasies with his colleagues and with his peers, and the degree to which these fantasies are understood or shared by others helps him differentiate the internal and external world. He is at this time looking for ego ideals or for models. He is not looking as much to his parents, assuming, that is, that the child has had normal parenting, and the past five or six years have not produced excessive deprivation. By this time, what he wants of his teacher and what he wants of adults is to present him with a model that he can emulate beyond the very intimate sexual and aggressive kinds of interactions he has had with his parents. At this age he is becoming very interested in all forms of sublimation. But there are still remnants of the past emotional entanglements. For example, we conducted a study a number of years ago, where we tried to teach some anthropological data to five and a half year old children and to 10 year old children. The five and a half year old children learned it much more rapidly. The reason is that they are very interested in where they came from. But now, the interest is not specifically sexual in the sense of going up to Mommy and asking "how was I born?" etc. It broadens into a much more supplementary intellectual interest. The child is fascinated with any aspects or signs that will tell him how things began, etc.

WILLIAM G. DARNELL:

This is the relevancy issue we were discussing.

MARVIN ACK:

Yes. One has to find things that are of interest and will attract and speak to the emotional stages that he is going through. The major developmental task at this stage is one of competency and productivity versus, for example, inadequacies.

BERNARD FRIEDLANDER:

There is also the matter of the membranes of reality and fantasy which are still very permeable . This is tremendously important.

MARVIN ACK:

Yes, he is not a completely logical child. For example, Piaget conducted an experiment on the development of reality in the child which I would look at from my point of view in terms of conscience functioning. Piaget tells

the 6, 8 and 10 year old that two kids robbed some apples and then they crossed an old decrepit bridge, and while they were in the middle of the bridge the bridge collapsed. Why? Almost all the six year olds still say because they stole the apples. And it isn't until age ten that you get a majority of the students talking about pressure, weight and the age of the bridge itself. It is not completely logical but they are developing the potential intellectual mechanism.

WILLIAM G. DARNELL:

The basic mental constructs just haven't formed.

FRANK FURBUSH:

Dr. Ack, I know the conference is studying the child between the ages of 6 to 11, but what happens prior to the age of six? I know from a market definition he begins to consume things and has higher preferences for things. Is there learning before six?

MARVIN ACK:

Most of the learning takes place before six.

FRANK FURBUSH:

Then I am sure he must be in our television audience. Even though he might not be measured at all, he is going through the learning process.

WILLIAM G. DARNELL:

Well, as T.V. has become the great American babysitter, you know that he is.

BERNARD FRIEDLANDER:

One of the things the child has learned by the time he is 11 is that people can lie to him and T.V. can lie to him. But when he is six, he is not so sure what is truth and what is a lie. Size relationships, shape relationships and cause and effect relationships are becoming progressively more precise. I'm not talking about knocks on commercials, that is not my objective. But if you look at the challenges to reality that appear on the T.V. screen, you realize the kid has a lot of cognitive work to figure out what is within the constraints of reality that can happen in his own environment as opposed to what can be done with mixers and special effects and so forth. What is beyond the scope of reality in his daily life or experience? One of the things that is happening is that by the time the child is eleven, he is learning the ways in which illusions operate, when an illusion can and cannot be sustained. He becomes much more skeptical by the time he is eleven. Would you buy that, Dr. Ack?

MARVIN ACK:

Yes

HARRY FRANCIS:

Is this the only place the child faces deceit?

BERNARD FRIEDLANDER:

Oh my heavens no. He faces deceit in all his surroundings because of the illusions of space and time and reality. The kid is dealing with illusion problems and kind of preceptual deceit when he is learning to catch a football, and he learns about leave time and having to throw the ball ahead of him when the other fellow is running. He is learning to overcome the deceit in the physical world. But he also learns there are a lot of interpersonal and social deceits in his relationship with his friends, etc.

WILLIAM G. DARNELL:

So basically what we've got is an active creature with an identification need who is demanding relevancy and, like all, some pleasurable experience. In terms of his learning and approach to the learning situation and the way in which he develops concepts or has constructs at this point, we are dealing largely with a kind of psychological creature, not particularly with what his learning behavior is. Is there anything we can say about that?

If one of the purposes of television is to instruct, and learning is taking place as an ad hoc feature of the child's development from the instructional point of view, is there anything we can say? We want to change behavior rather than to create activity. If we are looking for instruction, do we know anything about it from that point of view?

LILLIAN AMBROSINO:

I think we know one thing, and that is the best way to turn a kid off is to appear to instruct him.

WILLIAM G. DARNELL:

All right. Is this true? Is he that resistant to instruction?

ELAM HERTZLER: (Observer)

There are a couple of things I'd like to react to at this time. With this medium, I think we have difficulties in approaching where we can apply 16 mm films or anything

else. It is apparently unfortunate that teachers have fingers that will turn things off and fingers that will turn things on but they don't have fingers that will touch pause buttons in order to cause some activity to occur on their part and the students part relative to what they have just seen. The problem with the film referred to by Dr. Ack is that it ran 54 minutes. In industry, we found a long time ago that we could create better instruction by giving people silent films and letting the teacher do all the narration and interpretation. There is then the tendency to cut it on and off and pause to talk about things because it is not so totally programmed for them. I think we are talking about a concept of programming more than the medium. The medium is no different than a picture on a television tube and a picture on a screen. It is either good or bad, you are going to teach or not teach. It is the way either one of them is programmed that makes it effective more so than the medium itself.

WILLIAM G. DARNELL:

Let's shift the discussion to the medium itself and come back and take a broad cut. Hal Katz will discuss the technology of the medium in terms of "where we have been".

HAROLD KATZ:

Just by way of background, our (Mr. Herring & Dr. Katz) own involvement in television began a few years back when we began to see the potential that was available in community antenna television and cable technology. It was clear by the way things were going that people were simply saying "we are now going to provide the viewers not with four or five channels of information, but with four or five channels of programming". We are now capable of putting on 20 or 30 or 40 or 50 channels without too much difficulty. Our own concern was the fact that as far as programming material was concerned if you could still use films for pre-recorded material, then by and large, after you passed the first five channels, the next 40 were going to be relatively identical in programming content. There isn't that much software variation in the field.

What cable had in it, though, was the ability to create a two-way environment in which the viewer could become actively involved in programming. Out of this we developed what we called our interaction television system. There is a system already in operation in Overland Park, Kansas which is being used for the teaching of homebound handicapped children. We'll discuss that in a little more detail this afternoon and if things go well, we should have a tape-recording of an actual involvement between teacher and students at Overland Park, Kansas.

My own direct involvement in Audience Measurement per se is zero, so in that sense, I am an outsider to the problems that you are facing; namely, the audience measurement problems. What I would like to do, though, is present the technology in terms of the parameters that are available to you, and then see if these new parameters allow you to add something to the development of audience measurement techniques that perhaps did not exist before. I think there are a number of new dimensions now that become viable.

In a sense, to answer the question "where are we going" we have to look back to where we have been in audience measurement. In preparation for the Conference, I made a cursory review of some of the techniques which have been used for audience measurement. I tried to answer the question "what factors in the technology limit the usefulness of the information?" without judging what is being measured or the significance of the measurement. Instead, I looked at where the technology limits the types of measurements one can perform, and I came up with a few limiting factors which are, in part, created by the technology itself.

If you look at normal over-the-air television as a means of transmitting information, you have material being generated at one end; the broadcast wiring everyone in a non-selective fashion. That particular configuration creates what I think are the following problems associated with the dimension of audience reaction to programming.

(FOLLOW ATTACHED CHARTS)

Let's look at the location of the participants. In most experiments, you tend to take the participants out of their normal environment and bring them into a structured, artificial environment in order to show them selected material, so the variable of the location of the person can affect him. What he gets out of the T.V. materials is really difficult to measure because you construct an artificial environment for him.

Secondly, let's look at the selection of participants. Presently, you've got to take people whom you may move around; take them out of their normal habitat, bring them to some locale and start testing them. Thus you put a bias in by the way you have chosen the people that you are going to test. Again, of course, the technology doesn't allow you to be selective enough.

Third, let's look at the time element (and I think time is interesting in a number of ways to the audience measurement problem). One, you tend to test a parallel. Everyone gets the same test at one time.

The way technology is used today, that is the simplest thing to do. You don't have the availability of serial testing, or a combination of testing sequentially in time and in parallel, because information is too widespread and you don't have access to that kind of participant. Second, in many measurements you record the events after the exposure to the film so what you have measured is an integrated after-effect rather than the moment-to-moment affect on the subject.

Let's go back for a moment to the participants. You tend to think of the participant as just a viewer, and in those measurement systems which have observers, the location of the observer and the role he plays is also of significance. Again, you tend to bring the observer and subject together. So when I use the word participant, I really mean both the subject and the observer of the experiment at the same time.

The element of time has one other feature that has been alluded to in our previous discussions here. That is, we tend to show the material continuously. There is no ability to interrupt the material, stop it, and then start it again on the part of the individual viewer. The way it's constructed now, you are forced to show everything in one continuous experiment. The recording of "reactions", and I have reactions in quotes here since I am not so sure what the word reaction means -- but looking at the things people do record in reactions, there is a problem in the way these records are made. People do things like writing on paper, or they keep diaries afterward. All of this tends to make it very difficult to really analyze the data once the participant is through with it because the methods by which I might do the recording tend to interfere with the experiment. Again, it is a technological problem.

Now let's look at the program material. Here, the testing of material is very static; again, you can't turn it on and off; you can't have live breakthrough involvements; and there is very little involvement of the participant, in the program, by the participant himself.

What I would like to do is show how the use of this two-way CATV technology allows us to get around some of these structural limitations in the tests themselves. What I'd like to describe now is the two-way CATV technology and then illustrate how it is being used out in Overland Park, Kansas and then perhaps this afternoon talk more about how it can be applied to measurement and this would in a sense get everybody at the same level of where technology fits

today in terms of two-way interaction.

For those not familiar with cable television, let me just briefly indicate what the system consists of. In normal cable technology, you have antenna located at some point in the community which allows you to pick up the channels, bringing the information into some distribution source, and then using a cable that goes through sets to the cable. So, instead of the information being broadcast over the air it is now coming through a well-defined transmission medium; namely, part of the cable. The capability of a single cable normally deals with 20 or 30 television channels. The cable also has amplifiers to amplify the signal as it gets farther from the transmission head. It is very simple to convert the amplifiers so that they not only put the information out in a forward direction, but also receive information in a back direction, so that if you put a small terminal device in the T.V. set you can now have information originating at every television location and returning through the cable to some central point. At this point, we use the computer system that is controlling these terminals.

We have one of these terminals right here (he demonstrates). This is the basic terminal that would sit in every subscriber's location and I shall show you what you can do with such a terminal for transmitting and receiving information. We call this a "Queset" in the sense that it queues everyone up. The computer is interrogating each of these terminals in a sequential manner. That is why it is a "Queset" terminal.

The first thing you can do with a system of this kind is allocate channels. By that I mean you can pick a program which originates at one point in the system and allow only selected people to see that channel. You can also change that with time during the day. You do that by the computer controlling the terminal itself. So you take a given channel and instead of having 10,000 people watching it you could break it down to ten dispersed throughout the community and can vary that group in time during the programming day.

The other capability is program origination. Wherever the terminal is located, you can put a television camera into the terminal and the program can then originate at that spot on the cable, be sent back to the head, and transmitted in a forward direction. In other words, not only can we tie the T.V. set to the terminal and control what channels are received by the television set, but we can also set a camera into this unit. Thus the television picture originates there, goes back through the cable and can be put out forward again.

PAUL EKMAN:

Is that with knowledge and consent or without?

HAROLD KATZ:

Okay. This is a computer controlled system and you can do what one figures and I won't get into the moral structure at the moment.

PAUL EKMAN:

Just legally? And are you able to do this. Does the viewer who would be shot by the camera know that he is on?

HAROLD KATZ:

The way the programming is arranged, you cannot turn on the camera unless he requests it, but that is computer software and the extent one can tamper with the software. But the way it is programmed, you cannot turn on the camera unless the viewer so requests. He can take the combination of channel allocation and program origination in the following situation. You put a camera in one person's home, allocate a channel to ten people that he has some relationship to; his club, his class, and they decide to put on their own program. In a sense, you've turned over the medium to the people themselves. This camera can be located anywhere and we can selectively determine who gets the information. Take a community and fragment it in different ways with each group having its own program capabilities -- whatever the program means to them. The other characteristic of the terminal is that it has a microphone that can be selectively turned on so that people can be engaged in oral conversation with whatever is on the television set. People can in a sense call me back to a program source, and the program source ...

BERNARD FRIEDLANDER:

Can I interact with the video tape?

HAROLD KATZ:

Well, it depends on how you want to interact. If you want to stop the tape?

BERNARD FRIEDLANDER:

Stop the tape, If it was a live studio show they could interact with the studio show.

HAROLD KATZ:

Verbal involvement would only be, of course, where there is a live program.

JACK BOND:

Could we interact with each other while we are viewing the video tape?

HAROLD KATZ:

Yes, and we will show this type of thing on our slides on the Overland Park System. Let's take our group of ten people on the cable. They all have cameras and can selectively turn on one camera or another so that a given person sees his friend. A few seconds later you can switch it so someone else is on the camera. So we have one channel now being shared by ten people who can talk to each other and view each other if necessary.

BERNARD FRIEDLANDER:

Can they give a command out at the terminal to rerun sections of the video tape?

HAROLD KATZ:

Yes. In fact, the third feature of the terminal is a keyboard which has 12 keys on it and it looks exactly like a touch telephone system. We intentionally did it that way so that people could see the same kind of configuration on the phone as on the terminal and not look at it as a complex mechanical system. You can enter alpha-numeric information on the keyboard. So, it will take commands like "turn off the video tape", or "turn it back" so that every location with a terminal like this is now a source of audio-video or digital information. Every viewer now has the three components of communication capabilities. You can send messages to other people and have it displayed on someone else's set or your own. So in a sense, it is communicating verbally or video-wise. You can put information into the keyboard to be communicated to someone else. People call this electronic mail. Essentially the T.V. medium is being used to get back alpha-numeric information.

The other feature is that every terminal has a unique address to it, so if the computer is programmed, you can do things uniquely to each terminal. You need not send the same information to every location. You can partition the information through the computer -- audio information, video, and digital information. In addition to the audio-video-digital interactions, you can also tie other devices to the terminal through monitors. In the CATV sets people monitor fire alarms, burglar alarms and meters. You could also tie physiological equipment that would fit the physiological characteristics of the subject.

I have a block diagram form--the information system looks as follows. At the head end you put a computer with

the capability of storing lots of information, electronic cables that people tie terminals to; the terminals are tied to the T.V. set through a converter which allows you to select channels and to turn off and on channels through the computer and then to the terminal you add a whole host of auxiliary devices that need not be permanently monitored at the terminal -- either a camera, or an alpha-numeric generator that gives individuals a whole page of information. You can put a printer at his location that types out hard copies if that is desirable. There is one device which should be added on here but it is really not on the market yet-a "frame grabber". It allows you to send one frame of television information to a specific viewer. In a sense he is giving him a slide presentation, so the first, third and second information that viewers get is still pictured in front of him. And nobody else has it. That could be added on as the last community device.

In terms of present application of two-way television, we have a system that is now in Overland Park, Kansas, that is a two-way cable system, and we are carrying out experiments there with the school system in the teaching of the home-bound handicapped students who would normally not get into the school environment. We're also testing merchandising with Sears Roebuck where people use a keyboard to order merchandise that is displayed on television.

The other kinds of applications of the system are mostly game playing - people participate in the game instead of just watching.

I'm not going to dwell on all the other commercial possibilities available with this two-way interactive system, but essentially we provide a new dimension of viewer involvement, and we believe it has educational, sociological and commercial bases at the same time. Let me show how the system actually operates at Overland Park, Kansas in the teaching environment. I have a set of slides, the purpose of which is to show you how each of these technologies is used. We will discuss how you would like to do what you especially want. (Shows slide) Now this young lady is a teacher of the handicapped and would normally have gone to the student's home to carry out the teaching process. She is sitting in what could have been her own home or any other location on the cable. It has a terminal and a T.V. camera connected to the terminal. She has a microphone and is now carrying on a discussion. You can see how she is seen on television. She is seeing herself. The students at home are watching her. In addition to this equipment, she has another small television set that is sitting in front of her. That set is presenting the information that the students are putting in on the keyboard -- the equivalent of the teacher viewing the students raising their hands to interrupt. What she sees in front of her before the class starts is a heading form, identification

number and name. Now with this handicapped child entering the class, he types his identification number and name on the keyboard; that he is present in the class, and as each child does that, the list of names appear. Now Jeff wishes to interrupt and ask a question. He puts his code on his keyboard which is the letter "P". This appears in front of the teacher. If she wants to turn on the audio unit in his system she just presses a key on her keyboard -- she doesn't have to remember anything, the computer has immediately cut through the operation. As soon as she gets "A-2" on the keyboard, a light goes on, on Jeff's terminal, and a microphone is then alive. But he cannot be heard unless he presses down on the button, so he has the option of having or not having a live microphone in front of him. He must, if he wants to talk, press down on the button. As soon as she hits that coding "A-2", another code comes up "X-2". This tells the teacher that if she ever wants to turn off that microphone, that's what she presses. So she has control on a responding or raised hand, as it were. In this particular example, we have cameras located in the student's home. Jeff now wishes to have his camera turned on because there is something he wishes to show at his location. He goes through the same procedure, only presses the letter "C" on his cable trans, and then the teacher decides whether to turn on his camera. If she does, the following will be seen. There we have the television, there's Jeff at his terminal, and he is now in communication with the class through their individual sets. It's got to be extremely important in the case of a handicapped child with an individual watching. We'll see more of this on the video-tape of a live teaching condition where we have two handicapped, homebound children who become communicative with each other via the system.

So this is the way an audio-video can be made to occur on a two-way cable. In addition, Jeff has entered answers to the questions on this keyboard. He can thus take a test and he answered "true" to question number 1 and immediately the information is displayed.

COLIN MacANDREW:

Can they go outside the program and say, watch a film by calling up the film from the computer.

HAROLD KATZ:

Yes. They go on another channel. They can leave. In fact that becomes one of the interesting parts of "What can a child do to control the set?" while you are trying to make a measurement. In a sense, they are sending a message from the terminal that happens to be a mass of certain questions. There is a more commercial

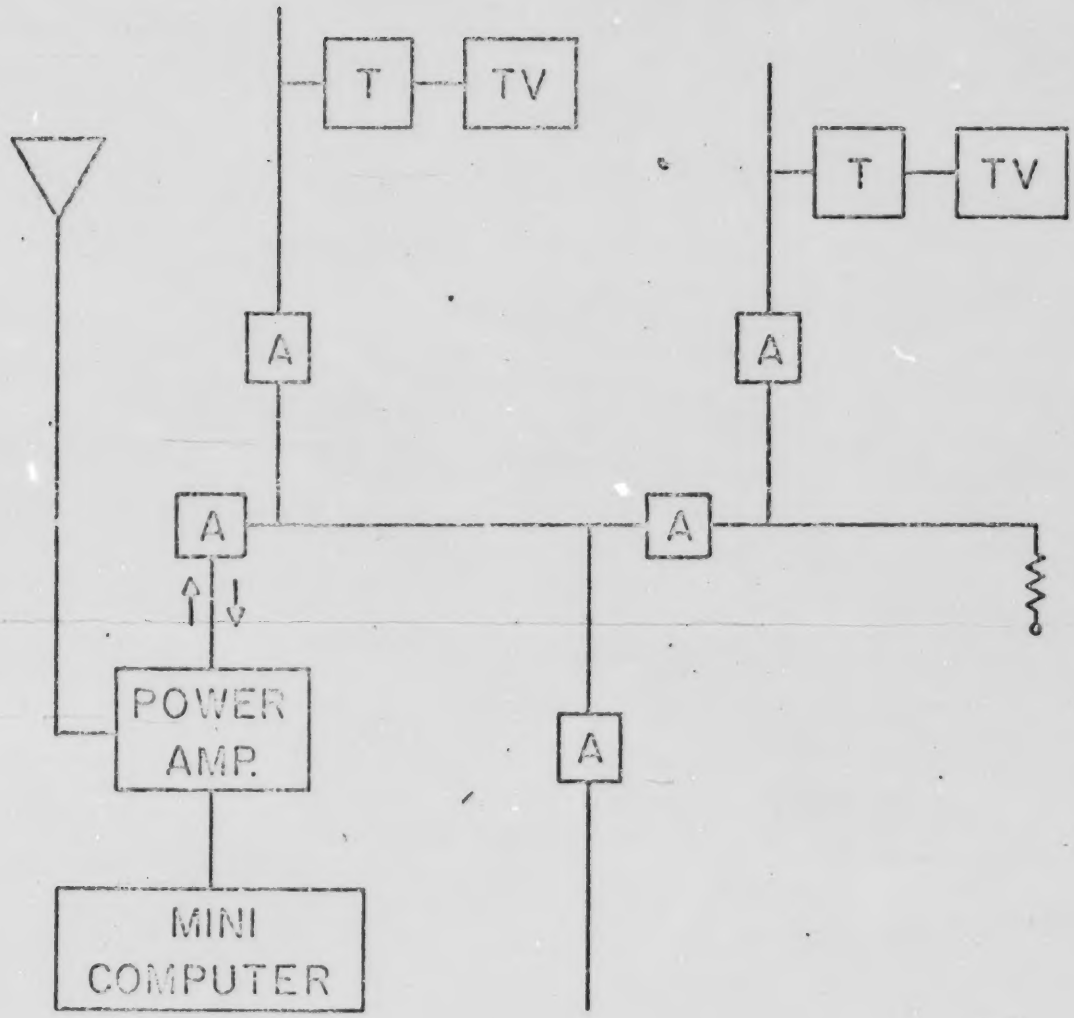
Dr. Harold Katz

LIMITING FACTORS

IN AUDIENCE MEASUREMENT

SELECTION OF PARTICIPANTS
LOCATION OF PARTICIPANTS
TIME ELEMENT
RECORDING "REACTIONS"
PROGRAM MATERIAL

CATV CABLE SYSTEM



Dr. Harold Katz

"QUESET" TERMINAL CHARACTERISTICS

CHANNEL ALLOCATION
PROGRAM ORIGINATION
DATA ENTRY
MESSAGE TRANSMISSION/DISPLAY
MONITORING

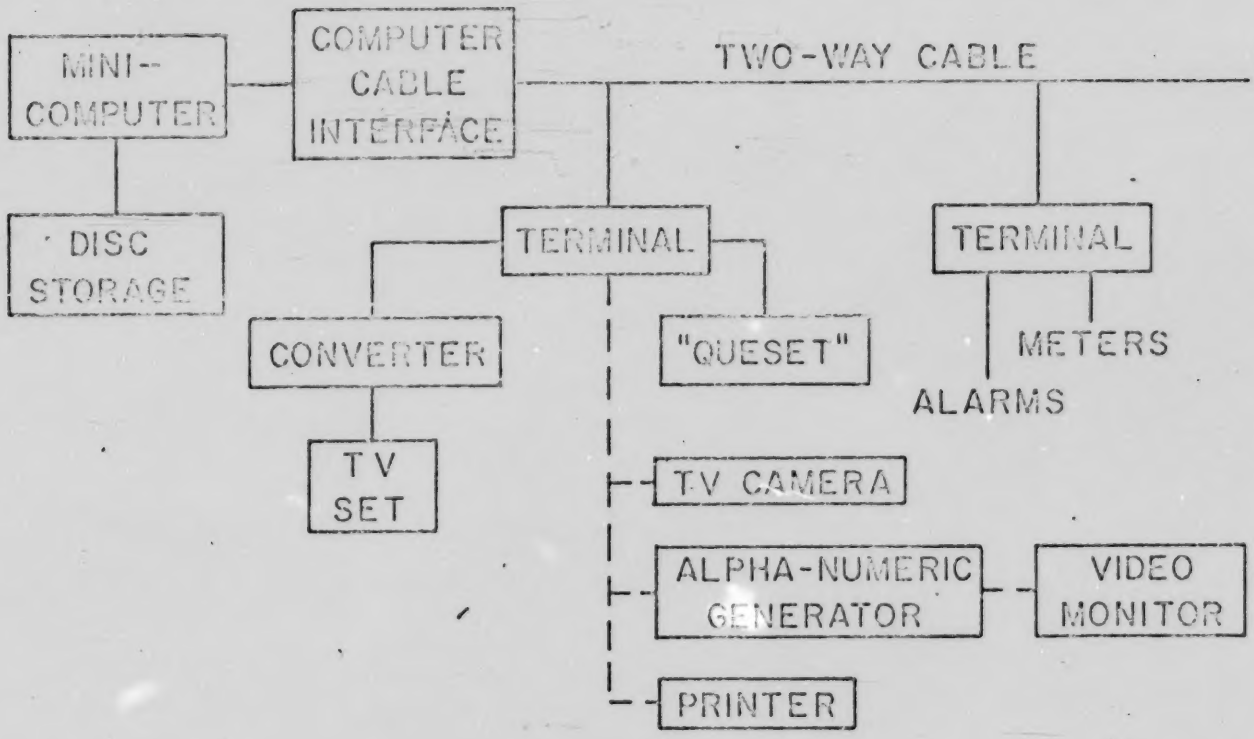
Dr. Harold Katz

LIMITING FACTORS

IN AUDIENCE-MEASUREMENT

SELECTION OF PARTICIPANTS
LOCATION OF PARTICIPANTS
TIME ELEMENT
RECORDING "REACTIONS"
PROGRAM MATERIAL

TWO-WAY TERMINAL SYSTEM



application. Here's a case where people have seen merchandise advertised on television and wish to put their order in. They use a keyboard to order a catalogue number which appears on the screen. You then see the catalogue number and other information that he has put in, then he has an opportunity to decide whether he wants to confirm the order and make the purchase or change his mind. He hits the asterisk and thereby confirms the purchase. Now in the system you saw before, every viewer could see that same alpha-numeric information while he's ordering.

There is one other capability in the terminal, and that is the ability to send a limited message of about 16 characters to every individual terminal. And each terminal is different and each message is different. Here, for example, we gave the instruction "enter your ID number" only to this specific terminal. So you can present an individualized message by your own television set to each person. Now, when he enters his number, the computer reflects back to him what he has entered so he has the opportunity to verify what he has done. I think that later on in the discussion of audience measurement we will see that the facility of the individual to project on his own television screen one line of alpha-numeric information allows a new dimension of audience measurement.

At the head end this is the computer configuration. You will notice that it is not very much in the way of hardware. These are small mini-computers which are relatively inexpensive, and control large numbers of people. This is disc storage for all the information concerning the people on the cable as well as those messages they have put in through the keyboard itself. This particular disc has something like one million words of storage.

So that's the brief description of the capabilities of the two-way technology and how it is currently being utilized. In this afternoon's discussion I would like to indicate how we might use these various parameters here for audience measurement.

WILLIAM G. DARNELL:

Does anyone have any comments?

WILLIAM CLENDENON:

I'm just sitting here breathing hard! I might comment for the moment about things that are going on with closed circuit television as opposed to cable television. I'm currently working on a contract for the government to make a survey to determine the degree of interest in the Executive Branch for inner-city closed circuit television as a management communications media. Wide-screen color closed-circuit television has been around for a while and

entrepreneurs selling sporting events and things like that have developed a system, but by configuring on that to provide two-way audio it becomes a viable tool, and that is the kind of thing that we are looking at now. We see a system that would be a network providing service to the departments and agencies and the Executive Branch. A contract net, a permanent net, to be activated at the same time every day and the users could be in any department or agency. They could use the system for any format or scheme that they wanted. Every department and agency has their own thing going. We see the system as not only a media for communicating from the seat of government to the area, branch, fields, districts, other levels of government, but we also see the system being used for communications between the government and those segments of the community that have common interests, like educators, labor leaders, civic leaders, and things of this nature. So closed circuit television is now here as a management communications medium, out of the entertainment field.

BERNARD FRIEDLANDER:

Sort of increases the difference between the people who are on the net and the people who are off the net, doesn't it? Increases the difference in access to government. The people who are off the net don't have the same access to government as the people who are on the net. That's going to cause a problem.

WILLIAM CLENDENON:

Well, a user of the network, once he had reserved the network for a particular time would proceed as though he was convening in the other conference. He would develop a format or agenda, and he would send a flier around to the people that he wanted to attend and request that they present themselves at a certain location. So to say that people are excluded from communicating with the government -- we imagine that in some period of time, perhaps in a year or two year period, there are going to be a lot of people in the hinterlands that will communicate with the government. We are not going to do away with any conventional channels just because a new system has been added.

BERNARD FRIEDLANDER:

I just make the observation.

WILLIAM CLENDENON:

All right. That's about all I can add.

WILLIAM G. DARNELL:

The primary advance, then, as far as telecommunications is concerned, is through using cable or possibly through using other alternatives -- adding an interactive mode of some form or another. And from the point of view of research, and the point of view of studies, it provides you with a data collection mechanism, it provides you with a means of restructuring your program as you are going through the developmental phase.

B. ALLEN BENN:

It can provide you with more than that, I think. It reminds me a lot of computer-aided instruction and some of the woes of that industry. I'm not directly in it, but my impressions of it are that in the beginning, there was a felt need by the people who designed the software for the media and the hardware to be able to, largely through the combination of the software and hardware, control the subjects to be educated by controlling the materials to be presented to them. That industry has not fared too well, and at the same time, I recently read of an individual talking about computer-aided instruction in which he changed focus completely. Rather than try and take on a formal instructional mode with the subject, he made available to the subject a large number of presumably interesting and content motivational modules or packages, so that the subject could, through a communication device, communicate with a central controller and call on the things that he wants to see and deal with. Conceptually, this changes it completely around -- that is, 180° away from the starting point.

It would seem that in television a similar kind of change could occur, rather than thinking content-wise what the 6 to 11 year olds want and need and how best to design programs to fit their needs. These programs could be modulized into small packages of five or ten minutes duration with various kinds of interaction, and leave it to the kid to pull out what he wants to do and see. The frequency of the use of a particular module might become a very interesting measure of design.

BERNARD FRIEDLANDER:

I think you have put your finger on something that is very important, and the distinction that is not adequately made is this term "mass media". A lot of people think of mass media as only broadcasting to a lot of people all at one time, but what you are really talking about is flexible use of mass media and dividing up your audience and dividing up options.

B. ALLEN BENN:

It really is, and it could be a tremendous switch in concept. A few minutes ago, I was getting a little confused by the large number of factors involved in the conversation. I wonder, sometimes, as I think of commercial television whether it is a question of research or a question of utilization of existing knowledge; whether it is a program content problem, or whether it is a problem with technique? But the answers to all of these questions have almost become unessential if in fact technology of the two-way cable interaction and the "switch-on" concept gets into play, because that could become the driving force to the point where commercial T.V. may well be the development of program modules and packages which are paid for by frequency of use.

HARRY FRANCIS:

You're talking about a totally wired system. How does this concept adapt to the existing system today of transmitters and reception?

B. ALLEN BENN:

I am talking about something a little different. It would be transmitted, but it would be called on specifically by the user.

WILLIAM G. DARNELL:

What would you call that, "trial and error", "random choice", "switch channels"?

B. ALLEN BENN:

Technically speaking, this is where it gets terribly interesting from the computer point of view, and that is where you do have to go beyond any computer. See, computers can store a great deal of information. Also, they have very sophisticated software that can be used for an extremely sophisticated index so that an individual can literally do anything, such as talk to the computers, and be indexed into the kinds of things that he wants to participate in. He talks in plain English - what do you want to read? Shakespeare? Do you want to see a cowboy movie? Do you want to see an animated whatever? You can have a virtual library of program modules that are available. Once you break through the concept of two-way cable T.V. with large computers at the end with a large number of channels, it seems to me that the whole problem may shift ...

BERNARD FRIEDLANDER:

There are forms of this in use today. My kid's high school has a dial select television film system so they can dial one classroom to a central bank and pick out their film. It doesn't work too well, but it's there.

HARRY FRANCIS:

That's fine for a person at a secondary level of education and up. But what happens to the kids of six and seven? They are reaching out and touching the world for the first time. They are running into things that they have never heard of or experienced before. How do they become selective?

B. ALLEN BENN:

I have a friend that teaches English at Catholic University, and I asked him about the possibility of automating libraries to make them more available. His reaction was that English professors like to go to the stacks and brush up against the books, and they couldn't do that with an automated system. But it seems to be that they could very well go up to the stacks conceptually, and you can't go to the stacks conceptually today. Perhaps the six and seven year old kids can be guided conceptually too by very simple language for it.

WILLIAM MILLARD:

That's the idea behind individualized instruction in the elementary schools which is now becoming more wide spread. It is not called computer-aided instruction by a long shot, but they are learning packages and modules of various kinds which are made available, usually under a teacher's general guidance, but also with a learning resource center with enough material that the student may pick and choose.

Bill, now that I have the floor, for the record's sake I might refer to one or two things that Dr. Katz said that have to do with previous practice in audience research. It is not always the case that audience research or reaction to programming is done in auditoriums where people are taken out of their homes. In 1955 we did that kind of thing in Puerto Rico. Last year, in Mexico, and also in the States that kind of procedure has been followed; that is, going into the home with equipment and getting the reactions on an instantaneous moment-by-moment basis to test films or test commercials. It is also the case that test films are not always shown continually. You do very often show them, interrupt them, and have a short discussion at a point, and then go on to the next part, and interrupt again. Very often it is helpful to have a curve or profile of the complete film and the audience reaction to it as a whole before settling upon the points where the interruptions are made and the discussion is held or the reaction solicited. The participants may be in their homes in the natural viewing situation, or wherever. Some-

thing that troubles me a little bit about the discussion so far is that it has been so diffuse. We have been talking about television and children. If we had been asked to talk about the reaction of children or people to books, we'd say whose books? What books? What kind of books? If pertaining to art, what kind of art? What kind of dimensions of response are we talking about? Tension? Are we talking about comprehension? Transfer afterward to other things? The unit of discussion has been so broad that if any of us were asked to do research on something we'd say, what specifically are we talking about? What units of presentation?

It seems to me that we have to get down eventually to a specific type of stimulus, and not just a specific type of program, because within programs there are all kinds of stimuli. Also, we haven't talked about the characteristics of the medium of television. One of the things it has done as a medium in use, at least in the instructional area, (possibly the educational area, too, but certainly the instructional area) has been to take a prestigious figure like a professor or an instructor and reduce him to a relatively small image. I suspect that's one reason that the tests of instruction by television and instruction and control classes without television have shown very little if any difference in learning because the impact upon the student of having this figure who is normally live and breathing reduced to almost a puppet, has not been taken into consideration. What happens if we use the system you were speaking about a while ago -- large screen, color, where the professor is blown up four times his normal size and given, by American standards where we sort of like bigness, a prestigeful presence? What happens then, if this is the way in which the medium is used?

We haven't mentioned anything about the visual supported by audio. The comment was made earlier that sometimes there is presented a silent film accompanied by a teacher's "comments" which sometimes gets the teacher more involved and the class more involved, and lends life to it. Years ago it was determined that if you have one stimulus video-wise and the other audio-wise, some people follow the one and some people the other and there is a confusion.

Then we talk about the frequency of repetition. I remember back in 1954 or 1955 which is a long time ago, the Gallup Robinson people in talking to Westinghouse said, "Look, in effect, when you put a commercial on the air, you're instructing the people about your products", and they said by our going around the next day and asking people what they remember from the night before, we're getting a measure of recall, and we can tell how well you're instructing people by how much recall we get. And then they showed an instance of 60 seconds where Betty Furness, I think, made one or two points three different ways about something, their new television

set, I think. Then they had a comparable thing about refrigerators and in it, six or seven different points were made only once. The fellow said, "Look, if you make the same point in various ways it is going to be remembered. If you make many points once, it is not". Well, this is pertinent to our concern with children and learning and the instruction of them. But it is a characteristic not so much of the medium, but the way in which the medium is used. But it's the art that goes into the medium, or maybe it's the art that goes into teaching -- even parental instruction which is so very unsystematic and where there is not real repository to draw from to find out about these things. I have the feeling that a tremendous amount of research has been done in the last ten to twenty years, but I'm not aware of any one source where it has been pulled together and organized in such a way that persons like our broadcast friends could draw upon it for use in production.

Now there is another major factor that maybe we shouldn't even talk about, but let me mention it anyway. It is a tremendous element in accounting for the fact that so much television has been done that is irrelevant, that is dull, that has been poor. And that is the absolute reluctance of creative people to use the research techniques that are available to improve the work which they are doing to measure, if you please, the extent to which their objectives have been achieved. Screen Gems is one of the few companies that has put a researcher on this. The researcher, over a period of time, has been able to make friends particularly well with directors who allow him to test their material along the particular dimensions in which they are interested; namely, audience attention and the ability to win interest. Nevertheless, most creative people feel that research is a threat and that a statistician is going to tell them how to write their script when, in fact, a creative person could look at the results of something that has been presented to the audience, and pretest it if you please, and see where to leave the script or film alone, and see where his intentions were not met and get to work creatively to fix that problem.

Very specifically, a couple of years ago the Junior League sponsored a 15 minute film on juvenile delinquency and had it pretested. The director, only under the promise of additional funds for re-editing the film, was persuaded to edit out certain parts which turned out to be very dull, and incomprehensible to the audience. It was about a baseball game. It had great symbolic meaning to the writer, but nothing was happening on the field and the audiences didn't like it-- and this edited film with a changed profile went on to win some kind of national prize. You know, a great film on juvenile delinquency. Here is where a creative man was forced to use research to edit his creative effort. Sesame Street is the great exception. As I understand it,

research was used in that production. But as a psychological barrier, I think the problem of creative people using their researchers is number one in dealing with production groups.

SHELDON FISHER: (Observer)

I want to get into a different area for a moment. I'm concerned with the fact that I still don't see building sets in the schools. I know that they build in tape recorders. I know also what we can do with two-way communications, satellite communications, and large screen color, and EVR if it is half as good as the publicity, but I have a funny feeling that "they ain't using it!" I'm worried about how we are attempting to use what we already have out there before we come in with some more sophisticated gear that is also going to be put in the closet. My favorite horror story is in Endicott, New York, where they have a complete closed T.V. system and a rather small gymnasium. They use the closed-circuit T.V. to handle the pep rally and the rest of the time it sits, as of four years ago. I was wondering how many closed-circuit systems have been put in the schools that aren't being used because nobody really knows how they work, and because there is a problem of standardization and different configuration so that they can exchange with other schools, so every school system has it's own series of video tapes -- English I, or Chemistry I, and we keep duplicating the stuff and it still isn't being fully utilized. I would like to get some answers. How do we utilize stuff that we already have and expand it to my special field and Mr. Miles special field, Manpower Training? How do we get this rolling before we start pumping in new technology?

MARVIN ACK:

Maybe one of the ways is to ask why it has not been used more extensively.

SHELDON FISHER:

I suspect that somewhere there is the lack of standardization.

MARVIN ACK:

I think we do a great deal of many things. I don't know what determines why a show like the juvenile delinquency show should win an award, but I have had some vivid experiences recently; for example, in the new area that's concerning everybody -- Drug Education. I have become rather convinced that drug education is probably the worst thing in the world. That is, no matter what you do, if you take the position that drugs are very bad for you or if you take the other position, "I'm only going to talk about the chemical reaction to drugs", in each case you increase the use of drugs. Until someone talks about the ethical

or moral considerations in drug usage or personality relating to your first question about specifics, I really wish we could get into our input something about humanistic concern in what we're going to measure in terms of what are we going to put in. At the moment, we are all talking about a specific definition of education; namely, the input of instructional media, or instruction. And I'm not so sure that that's an acceptable definition of education.

LILLIAN AMBROSINO:

Back to your question. Some of the leaders, in encouraging the use of television for school programs, are dropping out because the programs have been so bad.

HAROLD KATZ:

Is it the program material itself, or the fact that (and we keep coming back to it) it is the passive involvement and they will turn off that program as they may turn off any other T.V. program.

LILLIAN AMBROSINO:

No. The program material is bad because the people who write for the school programs in this country were led to believe that it is a low status field. And there is a tremendous amount of duplication.

SHELDON FISHER:

In educational T.V., whoever has got the show is the writer, the producer, the director, the artist and the star. In commercial television, that's ten separate jobs, and I think that that makes the difference.

LILLIAN AMBROSINO:

It is not a matter of the definition, it's a matter of the atmosphere.

WILLIAM G. DARNELL:

Then we also have a programming problem in the sense of what you can offer even in the case of split cable, or in the case of totally interactive programming.

OBSERVER:

I think we're pulling away again from this gentleman's question. Really, for a conference of this sort, a central point to deal with before we go into more sophisticated technological utilization advances is the question, "Why haven't the schools of this country used the incredible amount of hardware that they have purchased and which they are storing right now? Why aren't teachers comfortable with

that equipment? Why aren't principals comfortable? Why don't school decision-makers take advantage of the technology that has been developed so far?" Until we can cope with that kind of problem - the framing system, the software systems, or whatever, in terms of the people who are relating to kids in the classrooms on a day-to-day basis, this kind of conference isn't going to be very useful. Is it going to be what you'd like it to be?

BERNARD FRIEDLANDER:

There's a subtle point within what he just said. We're here ostensibly to measure audience reaction. And we think in terms of the reaction of the children. But the children often have not mediated between themselves and the program source. Yet, we have to be prepared to evaluate the reaction of that mediator, whether it is a teacher or a program selector for the region, or public television networks, so the people who make the administrative decisions as to what constitutes a program for the children really are a part of the audience measurement problem.

HAROLD KATZ:

The question that he raises regarding why people are not using all the materials and the equipment that has already been constructed, assumes that there is something terribly good about it and we have to force people to use it. Maybe people don't learn that way.

OBSERVER:

That's the way I think you ought to look at it: whether it is pre-recorded material segmented in 10 minute elements, or people have access to a full bank of 1000 films, is that really what will be educative?

OBSERVER:

I think we have to look at the way they make the decision, too. Sometimes you have a veritable banquet of technology available for educators, but educators see it sometimes in terms of the cliche, "multi-media". It's like in the 1950's, they hired a guy to run the AV department. He let out cameras and film strips and whatever for the teacher who was hung-over that morning. I think we have to somehow examine the people who are purchasing the equipment and are using the equipment and what is happening to their process. I suspect that many times they are dealing with the equipment as children use a toy without really realizing its full potential. This certainly will affect the kind of decisions they make about what they purchase and what they don't purchase.

WILLIAM G. DARNELL:

There seems to be a natural split in the environments in which television is used: they might be termed "formal" and "informal" environments, such as the formal instructional setting (where there is an organization, agency, etc., responsible for the use of television) and the informal home setting. This division might help in terms of getting to a different question. There are a variety of issues that one becomes interested in when one is looking into audience research, one of which is selection. That is, what causes a child to select and stay with a given program, assuming that selecting and staying with the programs are necessary prerequisites to more esoteric issues such as, are you changing structures, are you cultivating, are you in fact instructing? We may argue the morality of programming or the nature of content to be offered, and we may argue what it is that we should be instructing or offering through the program. But there is one point where we can begin, and that is, it has to be selected somehow and called out by someone. In the home, we can identify the component part: the parent and the child, both of whom are involved in the selection. In the institutional setting, in the school or in the training program, there is a different kind of mechanism taking place. Here, we know that there is someone other than 6 to 11 year olds involved in selection. So there is a question, what is the normal selection mechanism?

SHELDON FISHER:

Well, I think again you are getting to the heart of the matter; that is, selection has something to do with the mental set of the administrator towards the use of the media. He may view it, and I bring up a McLuhanesque cliche, in a linear fashion. So when he sees multi-media, what he sees really is a book that is somehow automated, and he is going to use it that way, and he is going to select his programming that way, and he is going to select his equipment that way, and if we are going to make a crack in that, then we are going to have to somehow reorganize these perceptions about how to use this kind of hardware and software.

JACK BOND:

But aren't we concerned about the effects? The administrator makes these selections. You know he can get away with it for a certain amount of time. Education has gotten away with it for about 100 years, now, in presenting something in the classroom between 9:00 and 3:00 in the afternoon, and the public has paid for it. Now the public is saying "Look. I've reached my limit. Now I want to know what I am buying". And so they are beginning to ask, they are beginning to look around from the standpoint of what is our effect. We see an increasing crime rate, and we say, "is

this caused by seeing violence and the like on T.V., which wasn't available to the rural farm boy 50 years ago?" He didn't really see the kind of organized things that we have been prepared for at this point. We used to be involved in a different kind of situation. Kids went to school if they wanted to go to school. When they got tired of the environment and the life that was in school, fine. He went and did something else, but we are faced with a situation in which the child is put in an environment. He now watches television. We have the lower class kind of situation that was alluded to earlier. Why does he do this? Because his environment doesn't allow him to get out and do anything else.

SHELDON FISHER:

It seems to me that I listened to as much radio when I was at school as my children watch television. Didn't the radio have that much of an impact on us? Didn't the CBS School of the Air which came on Monday, Wednesday and Friday? I heard it in school. Is television really that different?

EVERYONE:

Yes.

WILLIAM G. DARNELL:

Isn't the difference a positive one?

BERNARD FRIEDLANDER:

The difference is all embracing. It is a whole new dimension of life; it is a substitute experience, it is a vicarious surrogate life the children lead now, so it is expediently greater with T.V. than with radio. It's not a difference in quantity, it's a difference in quality.

COLIN MacANDREW:

I wonder if I could suggest two basic reasons why media isn't better utilized in the school system. The first is a problem in the aims of the school and the philosophy of the school. On the one hand, the uses of television and radio programs are for motivating and interesting the child. They are interested in student learning. On the other hand, if you are a principal or teacher, your vital concern is with National Average Scores in Reading and Arithmetic. That's the kind of measure that you're going to be judged on. It's examination based; rote learning based. There is a very great conflict there, and much of the material that is being produced is not relevant to the practical aims of the school.

The other problem is the massive teacher training problem involved. The teacher training institutes are not preparing the teachers to conceive of themselves as "managers" of

student learning. They are still trained to be "teachers". But, if you want them to be able to use the media, they have to have some concept of themselves as managers of the instructional process. For example; in a Washington D.C. University there is a Center for Educational Technology no course of which was a mandatory part of the training of undergraduate teachers. I would suggest that these are two major reasons why the programs and the media are not being used. It has nothing to do with whether or not the media are successful in attaining their objectives. It has more to do with these outside factors.

BERNARD FRIEDLANDER:

I would just like to point out that this problem is probably going to be more intense in the future than it is now; that is, the confrontation between the availability of technology and the utilization of it. We are sitting around here talking about all the gee whiz stuff that can be done and you can go out and manufacture it in the next three years. But at the same time, the input of new people is slowing down because of the change in the employment picture and we are going to have the same old teachers rather than a constant high population input of new teachers every year, so within the next five to ten years that is going to lead to a real conflict between available innovations and innovations that are executed at the classroom level.

B. ALLEN BENN:

That's absolutely true. Until you reach a threshhold where the media becomes overwhelming; that is, it is quite likely and certainly possible that once it becomes extremely interactive at the student level, just to plug into the media means that we lose the selector problem and the teacher problem and the administrator problem. One decision is made; that is, to do it or not to do it. Once that decision is made, then a lot of the problems you're talking about go away. There is no "in-between link".

BERNARD FRIEDLANDER:

I would never minimize the power of the existing establishments to interfere with the onset of a change of this nature. It may even be a good thing in the long run.

JERRY MC NALLY: (Observer)

I would like to make a couple of comments based on our experience in the field with motion picture film. I believe that we really ought to be talking about motion pictures because I don't think that the children of the ages we are talking about care whether it's coming through a Super 8 machine such as ours, or through the tube, or a picture on the wall. The fact that it's motion picture makes it work.

My bag is television. Out of frustration I went into the education production business in film and we do have a system in 150 to 200 classrooms right now teaching young children the English language -- and it works. It is taking Mexican-American children on the coast and the Texas border who, by the time they had picked up English, were beyond the point of getting back into the mainstream. Now, within one year they have not only learned English, but they're using it. I submit to you the two reasons why it works. One is that even those children are exposed to commercial television and it becomes competition in that classroom every single morning with the poor teacher -- and I say poor teacher even though I can criticize him, too. But generally speaking, I think their tragic situation now is when they say "good morning, children" and open up the book because they are looking at a bunch of children that probably saw "Bonanza" the night before. So they are mentally competing with production -- not what was in the production, but the production itself.

So what I hope will happen with this seminar because I think that you have a great opportunity, is that two vitally needed ends will be put together. This is what we tried to do, and I think that we have been somewhat successful. We took the needs, and that's when someone sets a goal, and I think we need one here before we get away from the real fundamental goals of the needs of the children -- whatever they may need from you experts who have spent your life learning how to understand the problems and the processes as much as we can at this point document. I think you experts should go to the television production people and tell them that here is the kind of input that we need in your productions and then essentially go away and let those people do the job.

Now this is exactly what we did with our system. We had top people in the language world lay out the goals, and then we said "fine, you have done your job", and we turned it over to the television people so that two things have happened. One is we didn't vary from the basic goals needed by the academic world. We didn't allow that variation. We told the producers what they had to produce. We did not let the academic people get into the production business, because it isn't their business.

I submit to you right now that the problem with public television generally is the fact that the amateur is trying to do a professional job. And you cannot compete with Hollywood when it comes to putting the film together. But what I hope might come out of this is a genuine effort to put together these two vitally needed things. One is that it is necessary to get into the area of behavior in particular, as well as the academic world.

What is it that is lacking in television today? I can name a number of things and then put the onus on the television people, because I have been there for 20 years and I think they are capable of doing it. Then I think

that you might come out with something that would have three results: One is that the children would look at television because it would be exciting; two is, if the right material is put in, children will learn from it - I think we are all convinced of that. Third, you might have a better chance of doing a genuine research job because then you can research and test against the material you want to put in. One of the problems, it seems to me, with testing general television from an educational point of view is that it wasn't designed for that purpose.

JACK BOND:

One problem that we bumped into in looking at a number of different kinds of films and trying to use them in some educational way was -- we had the comment from one producer, "Why did you make this film?" and the man said, "I don't know, I was there and I had film in my camera and I shot it and put it together and it sells."

JERRY MC NALLY:

That's exactly my point.

JACK BOND:

But that was his criterion.

JERRY MC NALLY:

That's because nobody in the academic world, or whatever world it is that we want to help provide the guidance, told him one solitary word about what to put in the film. Now maybe he wouldn't have listened, and in that case he shouldn't be used. What I'm saying is that there has been a terrible communications gap between the academic world and the commercial educational world. And the closest thing to putting them together has been Sesame Street and perhaps our own material.

SHELDON FISHER:

I think one of the recent problems the salesman that comes in a school system and he says, "I have a video tape machine that only costs $3,000, and for a few dollars extra you get a camera, you push the record button, and you make anything you want." Now Bell & Howell never told you that. They sold you a projector and you went out and bought the film. But the video-tape salesman says that for $3,000 you can make your own tapes, and they are doing it. I think this is where the problem began. And if I could pass a law, I would take the record circuit out of every machine there is and let the professionals have the record circuit and let the amateur have the playback. That would solve part of our problem.

WILLIAM G. DARNELL:

Given that we sit down and define the objectives for producers; in other words, we are willing to get all of our knowledge and strength to say that these are the kinds of things that should be offered, and then turn them over to a producer to do that, we are still leaving him a long way from objective to actual programming.

Sesame Street wrote up a set of objectives which were very lengthy, detailed, and very acceptable to a large community too. Yet, as I understand it in that particular situation, they tried to go a step beyond and that is essentially what got a lot of this going. They try to assist the producer by taking research or our knowledge, whichever it is, and translating it into a workable form for the producer. The question came up before, "From what distance and angle do I shoot a bee?" Another question came up in the terms of attention in patterning. Do I want to maintain them at a high level of interest and activity, or do I want to create dips and changes? It is an art, but even that art is in need of information.

OBSERVER:

I would like to jump in here while we are on the subject. It seems to me that we have a sample here of the state we have reached right now where the industrial lobby is far in excess of the educational lobby. People have sold a lot of hardware and in so doing have sold the public on the idea that technology is hardware, which is a lot of baloney. If we are talking about technology, it seems to me we get back to the Commission's second definition of technology which involves a total systems development concept, and it seems to me that when you are talking about audience analysis, you are getting into the first step of systems development which takes this whole concept and puts it into a perspective where the hardware becomes the delivery system for particular instructional goals. It is developed out of the cooperative effort of many people who see instruction for what it really is and what it really can do. In so doing, it puts this thing in a much better context. We hoped that this would be the seminar which would kick off the beginning of this kind of effort and start to turn this whole ball game around. Essentially, hardware is developed out of instructional media rather than the hardware manufacturer going around and selling the people a bill of goods to say that this is necessary and needed by the public.

HAROLD KATZ:

The comment that you (McNally) made about the teachers competing against the T.V. show the night before is another technological problem. A new technology provides television with another source of education -- the television set. So in a sense, the classroom is physically outmoded.

JERRY MC NALLY:

I don't think that is in question. It is outmoded in many ways.

HAROLD KATZ:

Then perhaps the classroom has to be extended into the community more in tune with the technology of information delivery.

WILLIAM G. DARNELL:

And if we are talking about opening up the classroom, we are then talking about moving the selection function back down to the kid and out of the organization. Let's try to get back to these 6 to 11 year olds.

We have talked about the problems of selection as interfered with by some superstructures, and therefore we should deal with the question of the superstructures themselves. We are also talking at the same time about clearing a lot of that structure away as far as education is concerned. And so what I would like to do is try to keep our focus on the 6 to 11 year olds. In terms of objectives, there is a problem. But I'm not sure that we are about to define the objectives for instructional television or define objectives for commercial programming in this particular session.

Maybe what we ought to do is pilot something by saying, "Here is a set of objectives. Let's work with this and see where we can go." Whether or not it is film; whether or not it is interactive television; whether or not it is mass broadcasting, I think that what we've done in terms of conversation and comment leads straight to it. That program segment is equally important whether that program segment is part of a cable, split cable, interactive television network, or whether that program segment is a film in a film series or whether that program segment is being broadcast over the commercial or public station. This brings us down to that program segment, and it seems to me that the place where we are putting together that program segment seems to be the place where a focus should be at this point.

Harry, does that make sense?

HARRY FRANCIS:

Yes, I would like to see us address ourselves to continuous programming. I would like to see us look at the design techniques for specific programming to be broadcast on mass media communication, such as "Sesame Street", such as our own show called "Hello World", such as "Hot Dog" and some of the other things that we have talked about. I would like to see us try to find out how and why kids react to various segments in these programs. I think when we go to

a classroom experience we have the option, whether it is exercised or not, of being able to interrupt the audio-visual recitation and getting feedback from the kids to the instruction. The instructor can stop and explain things. And we're talking about something completely different in commercial broadcasting and educational broadcasting as we mentioned earlier. We are talking about a somewhat captive audience. I think, Dr. Ekman did a study on children's movements in time with actual television programs. I would like to know what you discovered.

WILLIAM G. DARNELL:

This afternoon we are going to get into a lot of the various experimental studies.

HARRY FRANCIS:

And we have talked this morning about interactive television which I think of as Eutopia. But we are not talking about Eutopia. We are talking about today, here, now. The existing system has millions of people all looking at, or having the potential to look at, exactly the same thing at the same time.

MARVIN ACK:

You also aren't talking about the reality of the audience that you have and the danger that whatever you produce may come to the same end as the educational television shows that are not being used in the public schools.

Regarding research, you can take Piaget's research and find that there are certain stages in cognitive development that children go through. Children seem very similar. That's a product of the kind of question that you ask. Had you a different type of question, you would have been aware of the enormous differences between children, not the similarities. There are two contradictory trends going on in American education at the moment that I think may have some relevance to what you want to do and study: one is the accountability, behavioral modification where some external source determines what is educationally sound. Then you present it to children. You get the best educational view but there isn't that much unanimity among educational research as to what is correct, etc. Okay, then that is seemingly what you are going to do. You are going to present something that is "educationally sound".

The other trend in American education is to decentralize not just the schools, but the classes. The teacher is no longer the center of education. The child is the architect of his own curriculum. He makes the decision. This has just completely taken over in England to the point where

about 70 percent of all the British infant schools are operated on this free basis where there is no set curriculum; where the child comes in and determines what he wants to do. And this is coming more and more in the United States. There are now institutions that are training teachers for this type of identification. We have our contradictory trends, but if you decide to go one way you may find that your audience and your market places are going in a different direction.

HARRY FRANCIS:

I think we have to build our discussions on the similarities in children rather than the differences.

PERCY TANNENBAUM:

Why?

HARRY FRANCIS:

Because we are a mass audience vehicle and I'm not going to change the character of this -- we are a mass audience vehicle.

PERCY TANNENBAUM:

I think what we have been getting this morning is maybe the fundamental dilemma of the whole broadcasting system, since its inception, and that is the notion of creating a homogeneous product for a heterogeneous audience that is going to be there whether you like it or not. There are different ways for the system to handle it. One is to try and put it all into one show, which is ridiculous. The other is to offer a variety of shows within our existing broadcasting system. Later on, when this technology for more massive selection possibilities is provided, we will be able to expand on it. But in most metropolitan areas, you have six, seven, or more channels available. For those now served by commercial cable television, you can have even more. At hours like 11 o'clock at night, they are all showing the same news. That's my choice --not 13 different things, but two different things: news or not news. I have a little variation with this man's face or that man's face -- but it's the same news off the same wires. I'm not trying to be facetious. They are fighting with each other for the same audience -- that is the news time slot. At 5 o'clock in the afternoon they are showing similar, not radically different shows for children. We should somehow adapt the existing broadcast system, which isn't one show for one audience, but "N" shows available at a given time, so that some degree of selectivity could be introduced for the viewer, not for the producer here, but for the viewer, so you are competing for not the same audience but for different sub-audiences that exist. They do exist. It's a rare occasion that we have had a

large enough plurality of audience.

A president's assassination, the first Apollo flight, but not the last one by the way, where the audiences divided up and watched a hockey game or whatever else may have been on and we should give that degree of choice to the children during their audience hours.

HARRY FRANCIS:

This would be ideal.

PERCY TANNENBAUM:

Well, that's what's being offered. Why is it not possible?

SHELDON FISHER:

Because we are going by the lowest common denominator. At five o'clock in Washington D.C. there's the largest audience, they get the spots on and that is where the money is.

HARRY FRANCIS:

An that is exactly what our problem is! We have to go for the big numbers because television is so expensive!

PERCY TANNENBAUM:

Maybe the very fact that you just stated is why none of you are going to be an educational force in this country. I don't dispute your need.

MARVIN ACK:

If you want to appeal to what is common in children, and I understand this very well, you look at Saturday morning broadcasting which appeals to the sexual and the aggressive instincts of the derivatives of things. But when you are speaking of the cognitive interests of the children, these all vary. That is where children differ. They don't differ in their sexual and aggressive drives. All of us contain that sort of thing. But we are enormously different when we speak of all of the varieties of ego functions because by this time, all life experiences which are different for different children have produced a variety of interests. So when you ask, what is common in children, I'm afraid that what is common is the baser instincts -- the competitiveness, the kinds of things that we don't necessarily wish to encourage. But if you really want to encourage learning, I think you are going to have to find some variable techniques.

HARRY FRANCIS:

Right, and as soon as we start going at the sub-audiences; and as soon as we start doing a half hour show on how the bee flies and really appeal to these kids who have some desire to learn entomology, we're fragmenting our audience to where it's no longer saleable.

PERCY TANNENBAUM:

From what you've told us, you're fragmenting your audience anyway. They are not all watching the same program.

JERRY MC NALLY:

This may be your basic problem. I was with you guys for a long time and why must you television people program not less than 15 minutes. It's old habit. I think if you submitted to these gentlemen more flexibility right here today and say, for instance, take the half hour show that bombed and got cut up by the cartoons across the street, (and that used to happen) and say, "alright, gentlemen, you tell me the general areas, and we'll put in five, five minute programs, beautifully produced, high budget, audience gems." This should be done because we are talking about children that we know from our short film series can't necessarily sustain a half hour even if it is good. Children move around too much. There's something that I don't think has been used in commercial television as a technique.

HARRY FRANCIS:

Yes it is. You are not aware of it because we are a little group broadcaster and we carry very little profile. But we're doing this in our group production that all of our stations are putting together. They are very short and are very episodic and they run the whole gamut of enrichment.

WILLIAM G. DARNELL:

We should talk more about this attention span in children which has been referred to. What is the attention span once we get to six year olds?

MARVIN ACK:

I'm afraid we really don't know very much about the attention span in children. For example, I've worked with the ghetto children for a long time, and among peers, their attention span is very short and they are very active, etc., etc. On the other hand, in Kansas City we have established an open school, really, that is near a school where last year some kids threw a teacher's shoes out the window and said "If you come back tomorrow, that's what we're going to do to you." But we ran this open shcool and had no trouble after the

children learned to use freedom and to differentiate between freedom and license, etc. The result was that sometimes a kid would work three solid hours on a topic. And I think we are revising our whole psychology because we are recognizing that what we thought was innate in a child was a product of a situation we put them in.

BERNARD FRIEDLANDER:

Let me point out that I do systematic measurements and I would like to testify that Marvin is right. I've got records of nine month old infants in their cribs playing with an automated system we give them for 3, 5, 6, 7, 8 thousand seconds a day to hear things that they like. You can't say that children have low attention spans. It just doesn't wash. You've got to measure what you give them. Find ways to measure it and you will find out what's good and what isn't.

HARRY FRANCIS:

We need you to tell us how we can relate this to television.

WILLIAM G. DARNELL:

Is attention span related to material?

BERNARD FRIEDLANDER:

Absolutely related to material. But the one thing you have to be careful of is that attention span is not by itself necessarily a good thing. As Marv (Ack) says, you don't necessarily want to appeal. If you're interested in support of culturation of the child, you don't want to maximize what he tends to attend to. That would be a mistake to get that notion across. You want to measure attention, but you don't want to appeal to a gross property of attention and nothing else.

WILLIAM G. DARNELL:

But as attention grabbing as "the roadrunner and the coyote" for example, is for the kids, can you sustain that level of attention for a long time?

BERNARD FRIEDLANDER:

Well, you might have to measure day after day with comparable materials and different materials, and also put other factors into the evaluation.

PERCY TANNENBAUM:

Not only that, but when you say "can" you mean "is there a real upper limit" -- maybe he can be trained to, is the suggestion. Let's not mix up performance, i.e. what kids do, what broadcasters do and what educators do, with compe-

tence or what can be done. We made that mistake in the study of languages until it was finally cleared up. Now, I don't know what's good for kids to do, and no one else around us knows. If that's their attention span, then it may be a limiting condition and a developmentally limiting one, so you can't go beyond that.

BERNARD FRIEDLANDER:

You can't deal with this value-free question, either, with the pretense that you can get numbers out of a computer and think it's a value-free answer - it's absolutely inadmissible. You've got to make personal value judgment which represent your standards of what you think are wholesome, desirable or no.

WILLIAM G. DARNELL:

Are selection and attention related?

BERNARD FRIEDLANDER:

They sort it out. If they don't want to attend then they reject it when they are given a choice.

PERCY TANNENBAUM:

I don't know how you can separate them operationally. Selection is a measure of what they are attending to.

WILLIAM G. DARNELL:

In terms of channel switching and program selection, I don't know whether or not this is the nature of the child 6 to 11, necessarily, to select a program which holds his attention for that 30 minute period; or, given this creature is slightly active and the like, whether or not he might more sporadically select a program in terms of its attention holding, whether it is more low key, etc.

PERCY TANNENBAUM:

Some will. Some won't. What do you do then? You're still looking for general answers. All kids at all times.

BERNARD FRIEDLANDER:

It's very, very specific in the graph I sent you. There's a specific age relation.

FRANK FURBUSH:

I think Scott Ward came up with some of that same confirmation.

SHELDON FISHER:

It seems to me that the area in which we can make the most impact will not be in changing commercial television, which is going to take more than the efforts of this generation to do, but in changing the operational procedures of educational T.V. The teacher has a variety of short subjects she can use to play back on EVR, either through the station or through a closed circuit system, and get more impact through the already existing ETV channels than if we tried, to get commercial television to restructure. Commercial television is operating the way they are for very dollars and cents reasons. But their posture towards a degree of restructuring at this particular point ...

MARTY STEIN: (Observer)

I would just like to say -- I work for NBC -- yes, we are interested in inquiring about what we can do to change our ...

SHELDON FISHER:

On the whole, or on Saturday morning.

MARTY STEIN:

I just want you to know that I'm here today to learn and to understand.

SHELDON FISHER:

Because the 5 to 6 o'clock afternoon period is not NBC time, it's the local stations time. The local station in Terre Haute, Indiana is not about to throw out the afternoon movie which brings them $300 to give something that's educationally sound. That's where they get their money. NBC's time to really operate is the prime time in the evening and on the week ends. Part of the evening just got shrunk by an hour every night. On the weekends you are delivering, but you are delivering cartoons. They're the ones that we had last year, but essentially still cartoons. Although "Take a Giant Step" is a giant step forward.

HARRY FRANCIS:

I think we would be willing as commercial broadcasters to throw out the afternoon movie if we had another vehicle that would attract audiences of the same size.

SHELDON FISHER:

We're back to size again, you see!

PERCY TANNENBAUM:

Of course, what if I tell you the nature of the thing is that size and good education are negatively correlated What do you do then? The hell with education, right?

BERNARD FRIEDLANDER:

But you don't know the cost factors you have to confront.

PERCY TANNENBAUM:

I know them fully well. I'm not pointing to an individual or to a particular network. That's the problem of the media. You say, what good education could we provide given that we could still make or maximize our profits.

HARRY FRANCIS:

You're absolutely right.

PERCY TANNENBAUM:"

And you're putting a limiting condition, and that's fine, but it may be that you can't do any better than you are doing.

HARRY FRANCIS:

It may be but we would certainly like to try.

PERCY TANNENBAUM:

Well, the first thing you might do is to experiment more.

HARRY FRANCIS:

Let me get briefly on our soap-box, get back off of it, or even knocked off it. We are into commercial broadcasting because; 1. we want to make money, 2. we feel an obligation to serve our community, and there is not to me the disparity between serving our community and making money. I think we can do both. But we've got to have the money before we can serve because we are private enterprise. It is as simple as that.

B ALLEN BENN:

Another factor may begin to enter here when we discuss making profit and serving the community... I think the FCC is looking at what is being broadcast according to measures of diversity. I think that's one of the subjects now that economists and the whole field of economics is dealing with - the diversity of broadcasting.

TINKA NOBBE:

But the FCC still spends less than half of its time and money on television. The FCC is still preponderantly concerning themselves with radio and what it carries.

B. ALLEN BENN:

All I'm suggesting is that there is a whole new field that is developing which may become embodied in a regulatory agency which might begin and be actually obliged to see that these people be diverse. Furthermore, once they have to be diverse, other kinds of monetary questions come back into it.

TINKA NOBBE:

I think you will get diversity faster through cable than you will through the FCC. Ten years from now the country will be pretty well wired up.

WILLIAM G. DARNELL:

I would like to continue the discussion of content and the selection mechanism. You started to suggest earlier that due to the background experience and the like of the 6 to 11 year old, content is beginning to play a role in his selection. Is content in terms of what we are trying to communicate? In terms of program format? Or is it that the kid is responding to animals and people, etc. rather than cartoons, etc. Is that the kind of content we're discussing?

MARVIN ACK:

I'm not so sure that I can answer that. I'm thinking of ideational content, for one thing, and conceptual content. He is becoming more socialized; much more interested in people generally.

WILLIAM G. DARNELL:

Is it for example, that our 6 to 11 year old audience isn't there on Saturday afternoon? They just don't happen to be there at that particular point.

ELAM HERTZLER:

One of the basic elements of programming is that you create your audience. If you want to put up a radio station that plays all rock music, you would have an audience that wants to hear all rock music. If you play classical music, you'll attract that audience. You put on a show that the kids want to watch and they will watch it regardless of whether it's Saturday afternoon or Monday night.

WILLIAM G. DARNELL:

Remember, though, he is gregarious, socialized, active, animated and this is his afternoon out. He has been constrained by the school situation all week long and, typically, by the home situation in the evenings. There is your audience gone.

ELAM HERTZLER:

Thirty years ago Saturday morning was the time for socializing.

WILLIAM G. DARNELL:

Saturday morning for the 6 to 11 year olds is when he is typically available. It has been proven.

ELAM HERTZLER:

Of course, the medium has been there for a number of years and he has been conditioned.

WILLIAM G. DARNELL:

Is that the case, or is the medium searching for the time when he is available and found that this is when he is there.

RICHARD GIDEON:

In terms of weighing your audience, you could put on nine shows in both time periods, and if you put a show for children on Saturday afternoon, you will not get the audience.

WILLIAM G. DARNELL:

Audience analysis is multi-level but in terms of measuring when the audience exists, this is one area where you have been reasonably successful.

HARRY FRANCIS:

And does it really make a difference?

WILLIAM G. DARNELL:

As to when they are available?

HARRY FRANCIS:

No. Someone alluded that we move our programming for children to Saturday afternoon. What's wrong with doing it Saturday morning when they are available?

WILLIAM G. DARNELL

It seems to me as though programming shifts depending on when the audience is available much more readily than the media can create a change.

MARVIN ACK:

You're talking about socio-cultural factors that are different from social economic aims.

PERCY TANNENBAUM:

The kids, after all, feed upon each other. It starts out that you find when your audience is available, and then the audience gets conditioned. Sunday afternoon was dead broadcasting for adults, children and everybody else until along came professional football on Sunday afternoon, the men can't be taken away. Did they create their audience? The audience went to the program. It wasn't available ten years ago, and suddenly it's all there. Now it's Monday night, Saturday night. The audience for football was supposed to be dead but it isn't. Now we have it seven days a week.

ELAM HERTZLER:

If they started showing all the football games on Saturday morning at nine o'clock, you'd see children's habits change like crazy. All the Dads would be home Saturday morning and the kids would be out to play.

PERCY TANNENBAUM:

Whether you're fortunate or unfortunate enough to live on the west coast, football is at ten o'clock in the morning. Well, I adapted readily. It took me one Sunday to catch on.

OBSERVER:

In this discussion I think that one thing has been missing all along; that is, at home the manager of instructional technology is the parent. I think that a good deal of attention should be paid to the degree that parents have control over the situation and their problems in the learning process. They control the T.V. set, they buy the T.V. sets, and I think the industry is indebted to the parent in directing a good many of their messages to the parent instead of the child. A good many times, also, not only the child watches these programs, but the parent does also. And this many have a great bearing on the child's attention span.

JERRY MC NALLY:

In that point I think it would be foolhardy to put the best kid show you ever developed opposite the highest rated soap-opera, because the kid wouldn't have a chance. So we

learn about a lot of factors in television. It may be a great program, and those kids may be dying to see it...

PERCY TANNENBAUM:

They have multiple sets, a trend which is increasing ...

JERRY MC NALLY:

Yes, it is increasing, but if there's a color and a black and white, the chances are they are hooked on color. I think that's a major concern.

WILLIAM G. DARNELL:

Are there some knowns of that order? Does color overpower black and white?

PERCY TANNENBAUM:

When other things are equal. But we are saying that they are not equal, you see, and then I think that there are other factors besides color per se that governs the programs.

TINKA NOBBE:

CBS went into color in a great hurry when NBC was doing it.

JACK BOND:

But on the other hand, there's a body of research dating from 1945 that shows that black and white films were more effective in teaching instructional concepts, and the thing that happened very shortly thereafter was that you could not buy a black and white copy of that instructional film. I asked one of the film producers why this was and he said, "Well, we have put an awful lot of money into developing color films and we sell black and white copy. So we bought the color film. There have been numbers of recent studies that have shown that color is confusing, that it adds another variable; another distractor, to these kinds of things. So you have to look at the whole economic dynamics of what is going on to realize that there are a number of decisions made along the line that cause certain things to be available or not available.

JERRY MC NALLY:

Television gets beat over the head constantly. There are all sorts of articles about not doing the right thing for a group, whatever the group might be. Then you can turn it around and say "stay with the soap operas and get the big numbers and sell the high ratings", and they get critized. Then you can also find those that will say, "well, we don't want those kids to be exposed to certain television programs that you are going to put on". So you really have a lot of variables.

WILLIAM G. DARNELL:

One might argue that the soap-operas are a great educational experience and that it provides a view of a variety of home situations and people interaction and points of view. But I am not sure how far I would go with that one.

BERNARD FRIEDLANDER:

How else can a kid learn about abortions and nervous breakdowns.

SHELDON FISHER:

With the "Dark Shadows" program last year, the kids were running home at four o'clock to watch it. It is very interesting that this show grabbed them. It was a good horror story, and I don't know why ABC dropped it, unless the numbers weren't there. But they were reaching the kids like crazy.

LILLIAN AMBROSINO:

But only a certain age child. The younger children were frightened to death by it. The kids would go home and they would turn it on because their older brothers and sisters thought that it was a lark but the little ones were frightened to death by it.

MARVIN ACK:

Of twelve three year old children that I am working with at the moment, three of them are having dreams about the Cookie Monster on Sesame Street. An adult's idea of violence is not necessarily perceived as threatening; whereas a Cookie Monster to an adult is not threatening, to a child it may be very threatening. Without that degree of psychological insight, you are not going to understand the interface with the child's reaction to a program.

PERCY TANNENBAUM:

But I'm not sure that insight wasn't included in the Cookie Monster.

LILLIAN AMBROSINO:

This relates to a specific point, I think, and that is there are certainly times when kids are more likely to be watching than at other times of the day. We can assume that most children are in school during certain times of the day. Therefore, I think it might help commercial broadcasting to know for example, that the period from say 3 to 6 is likely to be watched by many children of such and such an age.

WILLIAM G. DARNELL:

But this is an area that an awful lot of money has been put into. Most of the work to date that has been called "audience analysis" is based on this kind of work. This is the Nielsen focus and the ARB focus. We might ask Mr. Gideon of Blair Television about this. For instance, place ad spots and the like in terms of the type of programs that you are going to support. In terms of the amount of information you have, is it there?

RICHARD GIDEON:

Quantitatively, yes.

PERCY TANNENBAUM:

But who they are is terms of broad, demographic categories such as age and sex. Who they are in terms of socio-economic class isn't too clear because there are a lot less questions. But in terms of some of the variables that were raised here about psychological nature, and the kind of kid who may be susceptible to the Cookie Monster, and the kind of kid who wouldn't be, that is rarely if ever included (if, at all, we could tell them how to do it). So the classifications are very gross broad ones; again, designed to look at broad audience size.

WILLIAM G. DARNELL:

If we are lacking information and methodology, is it this finer level of detail that we are looking for, that is, information on the nature of the audience via something other than a five character demographic spread?

TINKA NOBBE:

Would you like to hear a little about what the Ford Foundation is going to be doing in this area? It has to do with adults, and last spring one of our audience research consultants brought together a group of communications researchers who met for two days with us. They came up with all of the questions that the Nielsens don't answer and we feel ought to be answered, at least by the selector. We ought to know more about the selector. That's our focus in the Office of Public Broadcasting. And so starting this fall, the Corporation for Public Broadcasting and the Ford Foundation are going to fund a five-year effort to find the answers to some of these questions. The effort will be housed at the Corporation and will involve four cities the first year, and will work out of the Public Television stations and work to a maximum of nine. Perhaps you all would like to be kept informed of this project, or ask questions about it.

PAUL EKMAN:

What is to be determined?

TINKA NOBBE:

Well, the questions are endless. What kind of motivation does it take to turn to UHF? What's the relationship between the U and the V? How much do the new stations suffer? How do you explain the phenomenon of the successful stations such as KQEB and WGBH? Whether a program such as "News Room" is successful in balance? Is it because of the lack of good newspapers? What about the total communication's milieu in a community? What are the effects on the community and its organizations and institutions of having a PTV station at all? I could go on and on - for example, the Corporation wants to find out if public television has a generally positive effect. You start with a definition of public broadcasting as the place for alternatives, a place where television can do its best, and then you work from there.

HARRY FRANCIS:

Are you going to get into program forms? And why people are attracted to various programming.

TINKA NOBBE:

Yes, you see the Ford Foundation started giving money to public broadcasting in 1952, and $200 million later nobody had done one speck of evaluation. We feel that it is important, not only in terms of "is anyone out there watching". We feel that much more can be done than the Nielsens. The Nielsens have their place, but more ought to be done. So with the Corporation, we are preparing to do something.

FRANK FURBUSH:

What are your four cities?

TINKA NOBBE:

We are starting with New York, San Francisco, Washington and Boston. In the second year Dallas, Chicago, L.A., Denver and Jacksonville. That is tentative. The director hasn't been selected yet.

FRANK FURBUSH:

The big populations first.

TINKA NOBBE:

Yes. Our dollars are limited.

WILLIAM G. DARNELL:

Given the size of the job you're doing.

We're going to have lunch in the room next door in twenty minutes. We have come all the way around to where I'd like to be going into this afternoon. Our focus is on the mechanism of selection and the ability to structure programming -- making it selective, or maintaining attention. Secondly we are focused on technique in terms of methods of study. We are certainly looking for something more than Nielsen and something that does more than tell us where the audience is. We are now getting down to the mechanics of the person interacting with that program. Some of the things that we will be discussing this afternoon relate to that. The people who have been doing experiments along this line will be putting their ideas out for discussion. We will spend this afternoon with that before we go back to a more general "what do you need?" Plan to get going again at 2 o'clock as we have a lot to squeeze into three and one half hours this afternoon.

THURSDAY AFTERNOON

WILLIAM G. DARNELL:

We have six separate discussions that we want to try to run through this afternoon. What we are talking to now are various research projects and experiments that have been conducted by people. Based on what they have done, they were invited as participants. In every case, in some way or another, each goes beyond where we are.

Dr. Millard heads the list of individuals, so let's open with him.

WILLIAM MILLARD:

Thank you Bill. I have been doing audience reactions for about eighteen years, starting with the Theater Guild and moving into commercial work with McCann Ericksen, then I worked for NBC. I am now with USIA.

About a year ago, I guess in the last three years, we have run 10,000 people through audience sessions of one kind or another where we have obtained the measure of instantaneous response among various dimensions within the college faculties consisting of large lecture sections. Some of them in Math, Biology, Psychology, Chemistry and Physics. This was done under an ARPA grant. The purpose at that time was to study what goes on in the large lecture sections in terms of self-learning, in terms of appraisal of presentation on the basis of clarity, and in terms of level of interest. So today in these few minutes, there are three things that I would like to say. One, the method exists, the one which Paul Lazarsfeld developed in 1931 in Vienna, where he suggested that a student of his hook up some pins and electric current when she wanted to find out what people thought of music. It was then introduced in 1937 according to the literature over here, with Frank Stanton and Paul Lazarsfeld. It is still used at CBS.

Our system is based on the use of a four-point scale. The original notion was to have a red button and a green button. In other words, two extremes, middle position which a person took or they didn't register either red or green dependent upon the strength of their feelings. After some experimentation it developed that people who were in that neutral position had feelings, they were leaning in a favorable direction or leaning in an unfavorable direction or negative direction and it was possible by using a four-point scale to tap those. With respect to 6 to 11 year olds, we have done work from eight years up. Here is a chart and I will pass it around in a minute. A pre-test done in 1962 of the NBC

program "Exploring". This is the post-test. The pre-test showed certain weaknesses in the format and this chart is the indication of what happened as a result. The four-point scale is something which I wouldn't be surprised if with some experimentation and practice, six year olds could handle.

The basic assumption on which this method operates, is an individual can report along some specific dimension -- how he feels about what he has seen, how interesting it is, how clear he feels it is, it may be to say he's learning at the moment along a specified dimension. There have been sufficient studies of reliability to indicate it's a reliable instrument and the validity is unquestioned after these four years of use. There have been very few occasions when we have reached the conclusion that the profiles did not represent what the groups being tested were actually feeling.

The charts which are presented do not consolidate the four responses. They are presented separately in summative form. For example, on the chart you can see the red represents the percent of audience watching that particular film. The yellow represents the percent of the portion which said they were fairly interested. The light blue represents a little interested, the dark blue no interest. The reason for summing it is to give an indication of 100 percent. We have a built-in measure if any portion of the group fails to cooperate, and also to avoid those lines from crossing. If you get four or five lines crossing, it's hard to make sense out of it. Here then, is the color-coded instrumentation as it is presently developed. We use it and forget it. Students can take notes with one hand and manipulate this with the other, or whatever. At the moment, of course, the responses are computerized to get individual reactions over time from each individual participating. It makes it possible to cumulate audiences; to feed this into the computer; to select subsamples of the women, the boys, the girls, the age group we want; whatever is desired. When the Calcount plotter prints something out it comes out something like this (demonstrates). It seems to me that the future of analysis in this area lies in looking at the rather interesting response pattern which develops. This device, and others which you are acquainted with, convert feelings during an experience into an X-ray of that experience. And this X-ray will characteristically show certain patterns. We can see a few of these charts. This one is presented simply to show the reliability of the same film presented to two different groups. Here's a pattern which is characteristic of the presentation of three or four panelists, and whenever a certain panelist spoke, this is what happened. He had a personal appeal or charisma which caused audience response to rise whenever he spoke. There's a peak of interest here, there's one here, and one here. The same patterns.

Look at the structure of the film. Dull parts are put in between, like sandwich filling, the story telling parts

which were of high interest to the children. This was done systematically and it had the effect of introducing the lesson with interest, or closing it out with a high note, so that they could look forward to the next lesson. This is the kind of information that becomes visible when one looks at the pattern of audience response with a certain kind of presentation.

This is an old chart based on the Chrysler sponsored program, which has almost a perfect pattern for television. It starts with a sharp rise in interest, it drops off briefly, it builds steadily back to a climax with a center middle commercial (and you have no idea how a commercial kills interest in a television program). At least they use to. These days I don't notice that. And then it begins to build again here, and climbs to a climax of interest here. You have probably seen the theoretical burst developed in books on play writing. Well, it's possible, occasionally, to find something that comes very close to that. Here is a public health service film which also comes very close to an ideal pattern. There are "ups" and "downs" which are part of the creative process, but within an even higher rank. The final scene climbs back to a point which is higher. That is a very nice pattern. It doesn't often happen. Learning modules, the three-minute or five-minute packages referred to this morning, can be tested. These happen to be 60 second commercials, but you can see that on an instant-by-instant response measure it is possible to get an indication within fairly limited periods of time where the reaction of individuals differ. Here is another example where differences in treatment are reflected in audience response(shows pattern on space, animated).

WILLIAM G. DARNELL:

Who would be the audience for these short tapes?

WILLIAM MILLARD:

In this particular case, it was an audience which ranged in age from 16 up. And as I say, it's possible to break down the sub-groups. Here is a pattern of a film which as you see builds nicely here, drops off a little too much there. This was about San Francisco (describes the tape). Before different groups a similar pattern was obtained. You will notice they are two very different audiences, and yet the overall pattern was the same.

This recent classroom project measured clarity for an art club. The measures were "very clear", "fairly clear", "slightly clear", and "not clear at all". I hope that the day comes when professors of technology exist, who can look at this kind of information as it is happening and adjust teaching style accordingly. In terms of felt learning this is disastrous. This is one of those courses which everyone at the university is required to take unless you are maybe playing football, but otherwise you're supposed to be in. The feeling of learning something decreases

rather than increases.

This is also a very rare chart. Red, as before, represents the percent of students very interested in the lecture. You can guess what it was about -- Psychology and Freud. They were introducing his point of view, in this particular lecture, and the students were tremendously interested. Now in conjunction with the instantaneous response device, this does not measure comprehension or real learning. It can measure subjective evaluative reports of learning, so it must be supplemented with other forms of measure before and after, and any good research design will fill those in. But the notion of looking at patterns -- for example, there are two professors who lecture to the same group at the University of Texas. One of them characteristically had a pattern of a sharp rise and then a gradual drift off, a sharp rise and then a gradual drift off. The other had just the opposite pattern. He would built, make a point, the curve would drop slightly, and he would build again slowly, and then the curve would drop sharply. One is an anecdotal approach and the other is a more expository approach. Which is best?

WILLIAM G. DARNELL:

I was going to ask. You made reference earlier, Bill, to ideal patterns. I wondered what the base of that comment was?

WILLIAM MILLARD:

There are two bases for that comment. In the field of the theater it is based on the thinking of those men who have been involved in theater and written books about drama, theater in the last five years, that interest should build and fall, build and fall and the final scene should be one of highest intensity. We'll assume that this is a "gut" feeling they have. The other basis for it is the correlation between patterns which tend to build like this and retrospective appraisal of the experience as a whole. What somebody earlier called "integrated appraisal", where they sort of look back at the whole experience. However, it may be that in the panel, for example, there is no ideal that I know of. I'm not sure at all that in a lecture there should be expected any kind of building. The whole field is open for exploration really.

JERRY MC NALLY:

Has anything been done with younger children that has been repeated over a period of time, to get a comparison over that period of time? We know in television for instance, that children like to see certain things ten and 12 times, better than one time.

WILLIAM MILLARD:

Lately, what has been developed commercially is what is called the "torture chamber test". I don't have any of the charts along, but it's where a group is assembled and held for two hours watching the same 12 to 15 commercials over and over again. These have to exude some very fine pieces of art and they do. What develops is that sometimes the first time and the second time through two commercials for the same product will hold at the same average interest level and will have fairly good pattern. The next four times we'll see a fall-off in the pattern and tremendous increase in the percent that are not at all interested. Within six viewing periods, the commercial is dead and dull, even though at first it held interest, whereas a companion piece will continue to maintain interest and pattern will fall only slightly. The Marlboro commercials were beautiful examples of the wedding of music and photography. The Schlitz people, if I may say so, had commercials that were very interesting the first time and then the audience interest plummeted. The Kellogg people have used humor in a commercial to hold interest very well and used human interest in a companion piece where the bottom fell out. But this notion of exposing frequently is a very sensible . . . .

WILLIAM G. DARNELL:

One last question. The data we saw here were taken from 16 year olds and up. You mentioned that you worked down as low as eight. In terms of our target which is 6 to 11 year olds, what kinds of experience have you had in terms of these manipulative kinds of devices?

WILLIAM MILLARD:

It worked for the eight to 11 year olds. I would also like to add one thing. A device has been developed now for doing this in the home.

WILLIAM G. DARNELL:

Dr. Bond and Mr. Spaid have been doing research, some of which is related to the kind of work that Ed Palmer has been doing in the distractor analysis. As they run through their experiences they will try to draw some differences with what they are doing and what Ed has been doing since Ed is not yet here to represent himself.

JOSEPH SPAID:

I want to tell you about the so-called computer based project for the evaluation of media in the handicapped. This is located in Syracuse at the public schools. It is a direct outgrowth of a bill passed by Congress that provided materials and the media services and caption films for the deaf branch of the U.S. Office of Education to be made available to all

handicapped children. As far as we are concerned, our test population is emotionally disturbed kids from 6 to 12 years old of "normal intelligence". The second group is educable mentally retarded children from 6 to 16 years of age with an IQ range of 50 to 75. These children are students in the special education classes in the Syracuse school district.

The major objective of our project is to develop and test an evaluation system or model, if you will, which will facilitate media and materials evaluation for all areas of the handicapped. We feel that the uniqueness of our project lies in the fact that children's responses to the media are our major source of evaluative information. We develop test items for each piece of media based upon whatever that media is, be it a film, filmstrip, film loop or whatever. We collect data from a population of these special education kids in the school district via what we call, or what General Electric calls, the Student Response System. Later on, maybe tomorrow when we have more time, I have a film to show what the Student Response System is all about. But at any rate, what this system does is provide us with instantaneous feedback of group or individual responses. We use a single teletypewriter terminal to punch a summary paper tape that inputs directly into the computer for analysis of the data.

The second form of data that we collect on each piece of media is the attended behavior information. In our case, we have two graduate assistants on a projects staff that are assigned to record the attending behavior of students right in the classroom where the media is being shown. The graduate assistants sit at the front of the room equipped with stopwatches and record the number of students out of the five who are watching or not watching the media. This is done every 10 seconds. This raw data collected in the classroom situation is brought back into our office and punched up on the teletypewriter transmission to our computer. What we get out is an attending behavior graph which you have an example of on page 5 of your handout. This graph will show the percent that are attending to the given media on a 10 second interval basis. Jack will go into detail here shortly about that form.

Additionally, at this stage of the project we have done some preliminary research to interpret the possible relationship between pre- post- test game scores and the peaks and valleys that you see out in front of you. That's why we've gone to the trouble to isolate what concept is being discussed in the film at that particular point.

We have four trials that are involved in the collection of this kind of data that I have described. In the first trial, you use two classrooms of retarded children and one classroom with emotionally disturbed students. They run anywhere from 10 to 15 students in these classes. At the present time, we have established the criterion of acceptable attending behavior. There is no magic about it, but it seems to us that acceptable attendance is 75% of the children attending to the media 90% of the time. If you want to figure it out

arithmetically it comes out to about 67.5%. If this criterion of acceptable attending is not attained during this first trial, then we never write pre-test items for this media. We're handling an enormous amount of film sent to us by the U.S. Office of Education, Bureau of the Handicapped. In other words, this trial is simply a screening device for us. Now, if the attending criterion are met in the first trial, then of course we write the first item and the media goes into our second trial.

The objective of trial number two is to filter out questions that we have written but do not meet our criterion of acceptability. That criterion, in our case, for acceptable gain on a given test item, is 20% gain from pre- to post-test. We can talk more about that later. Conversely, if 80% of the kids get an item correct on the pre-test, then the item is dropped because obviously they have prior knowledge without being exposed to the message in the film, or the media, or whatever it is. Okay, so our sample test population that is utilized in trial number two is one class of primary age, kids from 6 to 8 years of age, handicapped, and one class of intermediate age kids 9 to 12 years of age, and one class of junior high kids, age 15 to 16.

Let me go on into trial three where we bus three classes into our center and expose them to the media and give a post-test only. (We develop pre- post-test baseline data by administering the pre-test to separate groups of kids who have the same age and handicap.) Now the objective of trial number three is to evaluate the media itself by examining all 5 of our data bases. Among those five we have the test items that have met the project's criteria of acceptability; the attending profit data; there is something that we call "subjective comments" of the project staff; and then, teacher comments after having used particular pieces. Based upon the examination of these 5 data bases we then write a report describing what the data shows including the questions to be used with a particular age and handicapped group. Then we send this media into our 4th trial. The objective of this trial is to verify that our findings from trial number three hold up in an actual teacher-managed and run classroom. That is, the media in this trial that has met the project attending behavior criteria and now have validated questions for the preceding trial, is sent out to 37 special education teachers in the school district where we administer a post-test. Now the purpose here of course is to verify the previous objectives and uses of this film in the preceding trial.

This is a brief description of what goes on. We have a number of feelings so far in this project, and they are that media has an effect on viewers; that many of these effects are measurable, discernable and relevant; and instructional uses almost preclude the specification of goals and objectives and ways to measure these in addition to the media. That is, the film must be made for objectives,

not the reverse as is now the case. We get these films in as an existing piece of media and we're confronted with trying to figure out what the objectives of this film are. In other words we are doing it backwards. Finally, viewers have many kinds of responses to a given showing, and Jack will cover some of the specific methods of measurement in this area.

JACK BOND:

I'd like to refer you to pages 52 to 56 of our stuff in your black binder. This is a rather detailed description of the attention behavior observation. Another term that describes this same phenomena is the "distractor analysis" that Ed Palmer developed in teaching research in Oregon and has since applied in "Sesame Street". I don't know how much detail you want. It is all here and I don't want to insult your intelligence, but I would like to point out some of the differences in this particular data collection from that of Palmer's distractor analysis. Palmer essentially used a seven-second interval because that is how he could set the Kodak Carousel to automatically change. He set up a distractor alongside the television set, a rear projection screen of precisely the same size, and he had a series of slides that were projected over and over again on a seven-second interval. He had an observer that was positioned in a way in which they could observe the eye of the youngster as he watched the T.V. program. At any time that his eyes changed from the T.V. set and went to the distractor, this was recorded. Now the precise observation was made at every slide change to see if the actual change of the visual distracted the youngster as well as what was in that visual itself.

We do not set up a distractor as such for two reasons. One is establishing just what a "distractor" is when showing a film in a classroom; and the second reason is, what kind of a distractor can you put in a classroom that will distract when things are already going on? We believe that whatever is going on in that classroom is distracting, so we decided to see when they were watching the media and when they were not. We went through a number of developmental areas here trying to watch all the kids and make some kind of systematic determination as to what each kid was doing and the like down to the point of selecting an arbitrary sample of five youngsters which were easily observed at 10 second intervals. We have some further feelings about this observation at 10 second intervals. There are probably places in a film where you ought to up this to every second or every two seconds. There are other places and other films where you could let it go 30 seconds and obtain the same data. But you really don't know that until you take a sample somewhere.

The second major difference between distractor analysis and what we are doing here is that the "distractor" set up was a strange room to the youngsters. These youngsters were brought into a room where the machinery was already set up. We go to a classroom and set up a film as though the teacher was going to show it, and then obtain our attention from that particular mode of operation. Other than that, the technique of getting the material is pretty much the same. Palmer has used small groups of youngsters and individual youngsters. We have picked a group mode simply because it was easier for us to manage and that is what is available.

We have several studies underway to look at certain things such as observer reliability and the like. These are pressures that are really on us by the outside world from the standpoint of, "well we don't think one observer is giving you reliable information." We have observed the same youngster with four or five of us in the classroom and the like, and we find the observer reliability up around .95, which is quite high in discerning whether or not the child has his eyeballs on the screen or not. Now there is a degree of error there as to whether this is in fact the measure of whether he is attending. We defined it that way, that he is, whatever error is in that definition is the measure itself.

CLARENCE FOGELSTROM:

Jack, you mentioned that what you are evaluating comes from the Bureau of the Handicapped. Are these materials from Project Life, for example, or would it also include the evaluation materials produced commercially?

JACK BOND:

These are mainly commercially produced films that have been captioned and are in the library for Deaf Education. We have had randomly selected materials to start on, but they are from the funding agency, essentially, who said "we want to know something about these materials?" So we had a marriage and moved in that direction. We are evaluating Project Life material and any other materials that come before us.

CLARENCE FOGELSTROM:

Do you find any great differences in the evaluation between the medium of the media? In other words, whether it is a transparency or 8 millimeter or 16 millimeter?

JACK BOND:

We haven't gotten to the point where we can make that kind of comparison in terms of a generalization. We have some

comparable things. For example, we have filmstrips that were developed as companion sets for 16 millimeter films, these kinds of things. We haven't made the comparisons as to which is better

WILLIAM G. DARNELL:

Did you mention that you ran some non-deaf students through, or were they all deaf students?

JACK BOND:

No, our students are not deaf and the sound component is there, it's just not used when it's used in deaf education.

JERRY MC NALLY:

I think you should make the point that the films were designed for general use before and captioned later for the handicapped.

WILLIAM G. DARNELL:

I was just wondering whether or not you were picking up differences in attending patterns among your deaf students versus your non-deaf students where maybe the attending behaviors were still exactly the same level except one is attending to the mode of the audio at that particular point and bored with the visual, but yet still attending to the program as far as attending is concerned.

PERCY TANNENBAUM:

There's no distracting material introduced, am I right?

JACK BOND:

Other than that, what would normally be in the classroom. There is no designed distractor.

HARRY FRANCIS:

So you have no control over the distractor.

JACK BOND:

We're assuming that they are normal distractions that would happen, such as a fire drill, the teacher walking into the room, etc. I think you could really sum up that our concerns fall in the broad areas. First is our concern with kids as an audience in terms of what they are being presented, how are they responding to this, and how can we get information about what they respond to. These are our major concerns. Take that film on bees. We really get to looking at it, and you ask kids about bees after they have seen it and they say they don't know anything about bees. But they can tell

you about the pretty girl and the other things that were in the film. Yet, it was purported to be a film on bees and these are the kinds of things that we are finding. I think this was brought up a little bit earlier this morning, that what we as adults perceive to be isn't always "true" when you really get down to asking the kids about it.

B. ALLEN BENN:

Have you done any studies with screen size?

JACK BOND:

I did some studies about 10 years ago with screen size and rear projection screen size out in Oregon. In one sense we found the smaller screens really worked better. We perceived the reason to be that the person was further removed from the situation and the image was clearer and darker. So screen size could be a factor.

WILLIAM G. DARNELL:

Are there any questions?

COLIN MacANDREW:

I was wondering if either you or Dr. Millard had discovered whether continuous attention was either desirable or obtainable, or is the aim to get a specific pattern of attention. What are the parameters, if that is the case?

JACK BOND:

We have some charts that fill the thing up to nearly 100% attention all the way through the film. In some cases, we are rather suspicious of this knowing that the attention of youngsters wanes a bit which means you should get some wobble in your graph. However, I have noticed a number of patterns in younger children that go on about a five minute cycle. But that is about the maximum and then you will see a drop from a younger group of kids somewhere between three and five minutes as you go through the film. You will see a pattern there which leads me to believe that this is probably related to the kind of attention/inattention cycle. You take junior high youngsters in this school up to around seven to 10 minutes but you get the same kind of repetitive kind of dip and it doesn't seem to matter what is in the film at that particular point. We realize there are probably three variables in observation. We are now designing some studies to begin to see if we can't sort them out. The observer variable we are trying to control by using multiple observers. There is the actual student variable, and to a certain extent this is a discrepancy in the definition of attention. He might be non-attending visually or resting his eyes but still attending auditorially or just retaining

what he perceives -- this is a scene of a guy walking down the road -- so he just non-attends until out of the corner of his eye he sees the scene changing and he comes back to it. There are factors we haven't gotten into from the standpoint of a technique to get down to the specific details about the audience response. We do find that we get different effects from films. There are films that have low attention, high attention, or variable attention.

WILLIAM G. DARNELL:

Do you have varying group patterns? You have ten individual kids in a room observing the film pattern, observing the patterns . . .

JACK BOND:

We have not taken the individual kid and noted their individual pattern and made a profile for each youngster. It has been a group profile with one observer for five children.

CLARENCE FOGELSTROM:

You have three variables. You talk about the observer, the child --

JACK BOND:

And the media itself.

WILLIAM G. DARNELL:

Okay, we have run over 30 minutes. Dr. Katz, how do you want to do this?

HAROLD KATZ:

I would like to turn over the entire portion to Gordon Herring to demonstrate the video tape.

GORDON HERRING:

I have a video tape that shows some of the equipment that Hal discussed this morning in action. I'm with the Telecable Corporation. We are building in Overland Park, Kansas a CATV plant. It has two-way capabilities as Hal described earlier this morning. It is one of about three systems in the nation that has this capability and we are doing some of the more extensive tests of two-way technology using Vicom gear. The areas that we selected are homebound education, opinion polling, shop-at-home experimenting and fire and burglar alarm experimenting. Probably the two that would be of more interest today would be the homebound education and opinion pole. The reason we selected homebound was because the need existed without the necessity to have terminals in every home throughout the community.

So we went to the special education department of the school district and they supplied us with teachers that have been working with several homebound students for a number of years. The two students that we have also are having their education done by cable and the teacher comes to our office in Overland Park. It could be in her own home or in the classroom or wherever she so desires, provided that she is connected to the cable. The students that were chosen are multiple handicapped students, both of them having had a series of brain operations. The boy, Jeff Herbert, is 17 years old and has had five brain operations. He has limited control of his hands and very poor eye sight. The girl, Barbara Winsel, is 18 years old and she has been out of school for three years. She also has the same problems as Jeff has. As I mentioned, the reason we chose this was because of the need that exists today. Some of the comments made earlier about the educator being able to use tecnnology that is on the forefront such as this, is very appropriate, I feel. I noticed in my workings with some of the educators at the secondary level that there was a great reluctance to use this type of medium. Until you can fully reach the point where you can reduce some of these fears, after you have them involved, then the fears will reduce and really encourage creativity as the teacher will bring the point up again in the tape. Without further discussion I will just let you see. This tape was actually taken from a classroom session. (The tape is shown. It describes the mechanics of student/teacher interaction and a commentary by the teacher on the effectiveness of the system.) That tells you how one educator's attitude changed in about two weeks. It was really interesting to watch her because she was very reluctant before she started with it. Within one day, it was hard to get her away from the equipment and she was anxious to get more students on. And this is the worst case situation because the students are very, very handicapped. It has also been interesting to watch the change in the students.

So even though there are a lot of technologies around now (such as video-tape recorders in the school systems that some educators seem not to know how to use, and new mediums that are much more flexible), I think they stimulate the imagination more than they should. We'll get to the questions in a minute but since we got into the discussion of commercials and so forth, I think I should show you in a very brief second how shopping at home can be done, as a way to measure a response to a commercial immediately. (More film on shopping at home by cable television set up.) I think you get the idea, and we are running a little short on time.

The other application that we are using is an opinion poll where a mayor and public officials come on and request that everyone in the community enter into their terminal and vote on a particular topic. It could also be used to get an immediate reaction to a particular commercial, using whatever format you choose from anywhere in the community.

This gives you an idea of what we are working on at Overland Park. We kicked it off the first of July and we are learning a lot. I think it is a new medium that a lot of us can find an application for if you start using your immagination. We'll open it up for discussion.

HARRY FRANCIS:

How many children do you have, just the two?

GORDON HERRING:

We have the two home right now. In Overland Park, as city of 35,000, we have 200 such students. We are planning on putting all of them on eventually.

HARRY FRANCIS:

Will one teacher be able to handle all 200?

GORDON HERRING:

No, five students -- these are severely handicapped. This teacher feels that she can handle 30 or 40 in a classroom situation. You see, it wouldn't be limited to the format you see on the screen. You could have it teletyped -- it would print out whatever way you want to do it. You could do it by exception -- just print out all the wrong answers to the student and she could go back and work with them individually, or a device such as the one displayed this afternoon could be put in and you could have the unit give a running commentary while the teacher is teaching, of whether or not he is understanding the material. This way you could extend it to well beyond 30 students.

WILLIAM G. DARNELL:

Are you locked to one visual throughout the system?

GORDON HERRING:

The way it is set up right now, there is only one video channel, but it could have several video channels so that with several sets, the teacher would be able to see two or three students. This again eats up the band -- even the cable is limited after a certain point. It can be done to be observational.

WILLIAM G. DARNELL:

In terms of gathering the information, should it be largely in the digital form?

GORDON HERRING:

It could be observational, also.

HAROLD KATZ:

Yes. We will discuss how we integrate these techniques for measurement in much more detail tomorrow.

BERNARD FRIEDLANDER:

I have two serious questions and a jocular one. The serious question: Do you think that the acquisition of the skill of manipulating the terminals for the child at home represents a substantial problem as you get lower in age range?

GORDON HERRING:

No. We have had several young kids come out to our office and children as young as 6 and 7 have the inquisitiveness to come up and play with it, and they have been taught how to use the terminal. I taught Jeff, for example how to use the terminal in about 10 minutes.

BERNARD FRIEDLANDER:

Second question: Is the cost factor sufficient to be taken into account at this juncture, bearing in mind the experience is due to the computer assisted instruction -- which never proliferated out, and probably won't because it costs too much?

GORDON HERRING:

To equate this to CAI is not a good analogy. They are two different animals completely. Humans are more involved here. We could provide Computer Aided Instruction with it . . .

BERNARD FRIEDLANDER:

What are the costs? How much did it cost to wire up Jeff? When you wire up all 200, how much will it be per kid?

GORDON HERRING:

If you put a camera in each home, which you wouldn't have to do, it would be around $250 per household.

BERNARD FRIEDLANDER:

You mean a terminal and a camera?

HAROLD KATZ:

No, just the camera. This goes with large volume. You would get a Videcon camera for about $125 that would do an adequate job. You don't need studio quality.

BERNARD FRIEDLANDER:

What about the terminal and the central office stuff?

GORDON HERRING:

I thought you were speaking incrementally. The CITCO hub costs wash as you get more terminals, and the terminal cost, Dr. Katz tells us, will be in the range of $150 per terminal. So with Computer Aided Instruction there is much more computer capacity needed and the central station costs do become significant at that application.

HAROLD KATZ:

That's a significant difference. The little mini-computer we showed this morning, which controlled the system costs a little less than $20,000.

HARRY FRANCIS:

And that would handle all 200 installations?

HAROLD KATZ:

It will handle thousands - 30,000. You now need access to a much more complex computer with computer assisted instruction.

BERNARD FRIEDLANDER:

Now the jocular question: If you ordered the wheelbarrow from Sears and they sent you the lawn mower, can you electronically send it back?

GORDON HERRING:

We're working on that.

HARRY FRANCIS:

Does your system have the capability of handling remote pan, tilt, zoom?

HAROLD KATZ:

Yes. The computer sends out an address to the terminal; each terminal then sends a command word and that command word can be used either to turn on the microphone, turn on the camera, tilt the camera, etc. You can use it as a control word.

HARRY FRANCIS:

But the camera would still have to be controlled from the remote site. Could you control the camera from your central distribution point?

HAROLD KATZ:

You can command the camera to move left, or right. Tilt, zoom and pan can be included. It is not at the present time, but it can.

JERRY MC NALLY:

Would that take another channel?

HAROLD KATZ:

No. All the visual information is on one channel. Everything you saw on the screen, all the inputs to the keyboard are on a single channel. The thing is that the byte rate is so high. Thousands of terminals receive commands and give back information.

CARL BECKMAN: (Observer)

What is this going to cost the school system per student to utilize?

HAROLD KATZ:

Nothing. Well, if they purchased the camera and purchased the terminal then there is a cost of roughly $350 per installation. But it could be on a lease basis. You see, what will happen as we get more and more applications is that people will pay for the time only that they use the terminal, not the terminal itself. Just like a telephone, you don't pay the telephone company for the handset, you pay them a fee everytime you use it. Eventually, it has to get into a large number of applications.

CARL BECKMAN:

Over the course of a year it will cost the school system how much? Some school systems figure $700 per year, per student. What I'm trying to find out is, is it as expensive, less expensive . . .?

HAROLD KATZ:

We don't have all the data in right now. The general conclusion we seem to have now is that one teacher teaching a group of students considerably decreases the cost of what they had before. They were paying something like $100 per month per student for someone to come into the home and teach the child. So at $100 per month, that's $1,200 per year on that one student, and that is only two or three hours a week of teaching. So the costs are cut dramatically from what it is costing them now.

WILLIAM G. DARNELL:

We'll turn it over now to Dr. Ekman who will be talking in terms of alternative measures. It's a slightly different approach than we've been taking but it ties in to where we would like to go for the rest of the afternoon. Paul, I would like you to take the floor.

PAUL EKMAN:

I am interested in the human face and particularly the movements of the facial muscles rather than the permanent structural features. Most of my research has been with the facial muscular movements as related to emotion. The emphasis has been on both normal and pathological individuals, I guess in about eight cultures, rather than children and interactive situations. I want to say just a few words about the results of those studies which provide the basis for the one study I just recently conducted on children's facial response to televised violence which I'll then describe..

By and large we have proven that Darwin was right in his expression of emotions book which, unlike his evaluation book, has paradoxically been largely ignored within behavioral and biological sciences up until the last decade. He said there were a set of facial muscular movements which were related distinctively to emotional states and were really the same for all humans. We think we have some fairly solid evidence now for establishing the universality of facial muscular movements related to six or seven emotions that we studied in all the cultures we've looked at. These muscular movements are easy to see; not too hard to measure; and, most people can recognize them if they pay attention. There is one complication, and that is that the face is a complex map. It can and typically does display at the same time more than one emotion, and that blend of emotions is what seems to confuse most people. But with a little training, that is not much of an obstacle. Paradoxically, the face can also be masked or disguised through habit or purposeful intention. We can control facial muscular movements, and if you care to spend the time and effort, there are ways to get beneath the mask and find out what it is that is being disguised.

Now, why should one be looking at emotion in regard to something like television programming in general, or television violence specifically? Presumably, emotional experience is important to the viewer. Perhaps the people in part look at television material because of the emotional experience they get. Presumably, emotional experience is relevant to learning in a variety of complex ways. I don't believe that it is as simple as saying people learn only when interested; or that people watch television in order to be happy. But I think that emotions are the primary motivators in man. I think man and child are interested in a variety of emotional

experiences. Negative affective arousals are often sought, and not just on the roller-coaster. The experience of different negative affects can be exciting.

Excitement is one of the emotions, but we have emotions about emotions. We can, when afraid, become excited. We can also become more afraid and terrified and that is not a motivator to continue the activity which has aroused fear. But excitment can be quite motivating. People are interested and do, apparently, derive pleasure from the reduction of negative affects. People "feel so good when it's over" type of business. And I think that people differ considerably in terms of which affects they most enjoy. Some people are really hot for nostalgia; others fear, temper, anger, irritation. Certainly in terms of looking at television material, both educative and others. I think one wants or should consider the emotional response of the viewer in terms of the nature of the learning process, in terms of entertainment, and in terms of trying to understand subsequent behavior. That is the particular problem we are interested in; that is, trying to relate an input of violence to subsequent behavior whether it is aggressive or altruistic behavior.

Why look at the face? Why not get other measures of emotion? There are a number of reasons why one would want to look at the face. Our research shows that it is quite differentiated, quite fine-grained information. You can get moment-to-moment sequential information. Often the subject can't verbalize the emotional experience. Many people, young people, not just children, have difficulty describing how they feel. And yet, I think you can see quite clearly on their face. Sometimes the observer could describe it for them, but you don't want to interfere with the input process. You don't want to ask them. You don't want to make them self-conscious. You don't want to interrupt their business. Sometimes the person could tell you, but they don't want to tell you. The emotional experience is embarrassing, or for some other reason they don't want to reveal it.

There are basically two broad methods for measuring facial behavior. One is to measure the movement of the facial muscles. You can do this off a video tape or film of facial behavior. It is not so easy to do it if you put electrodes into the face, because the muscles overlap and you can't easily distinguish the action of the muscle group from the other. That's not too difficult from the surface appearance of the face, and in my laboratory they developed a method for measuring facial muscular movement from film or video-tape. There is another considerably cheaper method, but it provides considerably grosser data. This method uses groups of observers who are shown segments of facial behavior at a fraction of a second, 10 or 20 seconds, whatever your design dictates, and asks them to make

judgments on grading scales of emotion. It is possible to get, and typically so, quite high agreement. Then you could use the aggregate judgment of groups of observers on a set of emotion scales. The limitation here is that you don't get a moment-by-moment information. You get information aggregated over a period of time and you don't get to look at the emotion sequences.

I am talking about emotion. I am not thinking in terms of general arousal, nor am I thinking in terms of simply a dimension of whether something is pleasant or not pleasant. I am thinking instead of specific emotions such as anger, fear, surprise, disgust, sadness, happiness, interest, and an experiment which I will now describe.

In the experiment we found these very specific emotions predicted different types of behavior in a child subsequent to viewing violence. It is a study which is designed as a feasibility study, and moreover, the facial response does predict fairly well, as least for our boys, what they will do afterwards. The subjects were 5 and 6 year olds - 30 boys and 35 girls and they were taken through three phases of an experiment. Each child watched television alone for six and one half minutes. The children thought they were watching television just to kill time while they waited to play a game. They saw two short commercials, then a three and one half minute segment from a regular television program, followed by a third commercial. Half of these children saw a program segment that included a chase, a shooting, a death scene, and a fist fight, unedited from the first three and one half minutes from an "Untouchables" program. The other half watched a sequence which we tried to match in terms of interest, competitiveness and activity but without violence or the threat of violence -- a sports event, a track meet. While the children watched the program, unbeknownst to them we taped their facial behavior.

After the six and one half minutes were up each child was taken into another room where an apparatus was explained to them. The apparatus displayed a green "help" button and a red "hurt" button. A child was told that there was another child in the next room who was playing a game that was attached to the apparatus. If they pressed the green button, it would help the other child win his game, and if they pressed the red button, it would hurt the other child by making the handle hot and burning the child's hand. We had some evidence to believe that children not only understood, but believed that there really was another child. Some of their facial expressions while they are attempting to burn the child was rather persuasive to view.

Finally, each child was taken into a playroom modeled after a Vandura situation where there were aggressive and non-aggressive toys, and they were rated by two observers in terms of aggressive play.

In this study, which was done much too quickly in terms of

trying to get results, we used the second method, not the first; that is, we took segments of their facial behavior and showed them to groups of naive observers who didn't know what the child was viewing. The observers rated the child on some 11 scales of emotion. They were given 20 second segments. Each child was rated three times, but no one observer saw a single child more than once. So we had to use quite a large pool. In all, several different emotions were relevant to predicting subsequent behavior. Pleasantness, happiness, interest, involvement, arousal, anger, pain, sadness and surprise were each significantly correlated with at least one type of post viewing behavior. For example, pleasantness -- now the results I am reporting are just on the boys, not on the girls. Our results on the girls are strange. Pleasantness predicted not hurting, correlation about .60. Happiness ratings also predicted hurting behavior but it also predicted aggressive play. If the child looked happy or pleasant, that is correlated with using the "hurt" button more often. That is while they are viewing violence. Similarly, if the child looked happy when viewing violence, that is correlated, I think that is point 5, with aggressiveness and subsequent play. If the child showed unpleasantness, that was correlated with helping behavior; showing sadness is correlated with helping behavior; not showing sadness with hurting behavior.

The interest and arousal scale were correlated with latency. That is, the more interested or the more aroused the child as manifested in the face, earlier in the sequence of trials did they attempt to hurt the other child. The more interested they are, the less helping behavior they engage in. I should say that helping and hurting behavior are independent of each other statistically; that is, you cannot predict the amount of helping when the amount of hurting correlation is .2. It is not a significant sample. But you can predict helping from hurting behavior from the immediate facial response when viewing violence.

The last measure I'll report to you is pain. A child who shows pain in his face when someone is getting killed -- this worked only in the killing sequence, not in the fighting sequence. If the child shows pain, then he engages in helping behavior. And that correlation is also about .6.

Now, if you put these into a multiple regression, we can account for 75% of the variance in subsequent behavior, so it is not a modest relationship. Again, the immediate facial response shown while witnessing violence does account for really the majority of the variance and subsequent behavior.

I really only have two or three more points to make. One of these is that by and large, if you examine the data, you can classify our boys into one of two groups. Those who respond with interest, arousal, happiness, pleasantness and without sadness and pain or fear, apparently enjoy the violence. For those who show the opposite reaction, you get sadness, pain and fear and little evidence of happiness and pleasantness.

There is about an equal number of each. That's very interesting to us, and of course that division predicts whether they engage in aggressive or altruistic behavior. Is that stable or not? Will the same child who looks happy, when witnessing another violent program, also look happy? Is this really a product of the temporary set of the child, the mood? Some kind of unknown event? Or is this a stable characteristic of the child which is associated with socialization, parental attitudes, whatever. We only have the barest hint, because we did not know whether we'd get anything in the first place. So we didn't get much data on the children's backgrounds. But we do have a relationship with parental attitudes on discipline. And that suggests to us that we may be looking at a fairly stable phenomena. We think that's probably socially important, and I would say at least, that our results strongly suggest that you cannot make simple generalizations about the impact of input like a violent program. You have to consider the viewer, and the viewer's emotional response.

Now in terms of the general utility of these measures of facial behavior, will they predict? How will they relate to the amount of information learned, the preferences, the consumer behavior? As far as I know, these are all unknowns. I do believe that this is the first study that used the immediate facial response of the viewer in an attempt to predict subsequent behavior.

There are some problems with the measures; they are not cheap; they are costly. Second, they only tell you about emotion. They don't tell about other things. They may be very related to other things, but they are measures of emotion, not measures of thought or information gained.

The last is, it can be inhibitive, that is, we have every reason to believe from studies of adults that if the viewer knows that you are analyzing his facial response, then he may well control his facial response to increase the cost of your analysis ten or twenty-fold. That is, you will have to do extraordinary work then to get it out. It can be done, but it is rare that we would want to. So it is our belief that in this kind of research the viewer should 1. not know that you are looking at his face, and 2. if he is in the presence of others, then the situation should be such that others cannot view this fact. A typical television situation is like that; that is, people sit facing a screen, not facing each other (to Katz). This is the reason I asked the question before about how your situation was set up, but that type of situation would be that you wouldn't get much in the way of facial muscular movement that would be useful for gaining our kind of information precisely because the viewer controls and knows that he is being viewed.

HAROLD KATZ:

That was a question of software which can be changed.

HARRY FRANCIS:

It doesn't necessarily have to be that way.

PAUL EKMAN:

No, right. We were, of course, NIMH supported and we got the parent's consent for this, after we separated parent from child so that the child didn't know about it. Now there is a three page summary that gives you more information than I have said that you should have in your notebook, but I tried to go quickly so as to have time for questions.

HAROLD KATZ:

You described two methods of measurement: one with groups of observers and put down remarks about what they had seen. What did you do with the video tape?

PAUL EKMAN:

When you have either video tape, film, or stills, (stills are really useless for this kind of research) you can get information about emotion by one of two routes. You can measure the movement of the facial muscles; the duration of those movements and the type of movements, and classify them. You get moment-by-moment, and I really mean moment-by-moment data.

We have an atlas that shows all the muscular contractions of the face that are anatomically possible. There are not that many. We break the face up into three areas where there is relative independence -- There are seven different configurations that you can get in a forehead, and that is really all you can do, except for unilateral movements.

There are 17 in the upper and lower eyelids, and there are 54 in the lower face. Now these can occur so that you can generate 11,000 different faces, but the atlas depicts less than 100 of these muscular contractions.

HAROLD KATZ:

You are actually visually comparing?

PAUL EKMAN:

We do the measurement, notching against the atlas. Or we actually measure in terms of measurement and its classification with the atlas. And we measure the precise beginning and end. If you want to look at sequences or you want to look at blends, typically you get blends by getting the muscular movement associated with one emotion in one part of the face and another emotion in another part of the face. In doing this, you would be making independent passes--three passes on the face, blocking it off. For example, you cannot classify what's going on in the eyelids if you can see the brow or lower face. So you have to block it off in three separate passes.

HARRY FRANCIS:

Do you still-frame this?

PAUL EKMAN:

No, we go down to still-frame in order to get duration measures. We have a computer addressed video-system where we can put on a visual and time address on each field, so we can do measurement down to a 60th of a second. That's all we use the stop frame for. In terms of the classification step against the atlas, you can do that usually about half-time.

WILLIAM G. DARNELL

Is interest or attention a class of emotion?

PAUL EKMAN:

Yes. It's not the easiest one. Well, I wouldn't call attention one, we do look at whatever the person is looking at, the input source. But interest is considerably harder to measure than the other six emotions we deal with. It's fairly easy to get it with observers judgment.

MARVIN ACK:

You said that measurement of emotion usually predicted subsequent behavior. But then you also spoke of an experimental condition where the kid was put in a room with a variety of toys...

PAUL EKMAN

We predicted that as well. That is, we predicted a

subsequent aggressive behavior. I should say that behavior in the two aggressive situations, the button pressure test and the aggressive play test, correlated with each other. But our facial measures predict both.

MARVIN ACK:

You predicted the behavior in an experimental situation in which the subject had only two alternatives; that is, hurt or help.

PAUL EKMAN:

That's right.

MARVIN ACK:

So there is no knowledge of how this child would react...

PAUL EKMAN:

Absolutely--it's an experiment. We have studies not dealing with television that are within a variety of naturalistic stages utilizing comparable measurements. But this one is an experiment and the child has only two choices. True enough, I didn't report to you that there is a control group that does engage in significantly less pressing of the "hurt" button and less aggressive play than a group that sees the violent materials. However, there is variance within each, and in those who see violence, the facial behavior accounts for seventy-five percent of the variance. Within those who do not see violence, the facial response when viewing a track meet doesn't tell you anything about what he is going to do afterwards. Now we have some theories...

MARVIN ACK:

You measured the presence or absence of emotion but not intensity in any way?

PAUL EKMAN:

No. We measured intensity of each expression, again, by facial expression. It gets very technical. For example, there is a very complex relationship between frequency and the extent of muscular contraction.

TINKA NOBBE:

What happened with the girls?

PAUL EKMAN:

The most conservative way to interpret our results is to say that we didn't get anything with them. And that's the way we've done it in print. The 5 and 6 year old girls did not differ from the boys in the emotional response that we see in the face when they view violence, nor did they differ from the boys in their behavior subsequently. They are no less aggressive, in either button press or in post viewing measures, while for the boys correlations are quite high. The correlations for the facial response and subsequent behavior for the girls are practically not there. The only ones we obtained are exactly the opposite of what we got with the boys. In other words, while the boy who looks happy commits aggression afterwards, the girl looks unhappy.

Now, since the results with the girls were far weaker and less internally consistent, we have chosen at this point to say we didn't get results with the girls. We think that it may well be because the actors were all male, and the type of violence was all male (cops and robbers). We do hope to follow up on the girls to find out what is going on and move down. With these measures we think we won't have any problems moving down to three years old, which is where we want to go next.

HARRY FRANCIS:

I have a question on your violence. What was actually the sequence?

PAUL EKMAN:

The program starts out with an older gentleman being murdered, and you cannot really see how they do it. They stick a knife into him, but you can't see the knife. A moment after that occurs, the murderer and his cohort start to run. They are chased by two policemen and by Elliot Ness and his cohorts. During the course of the chase, one of the thugs beats up a policeman, clearly establishing at that point--it wasn't clear before--that he's a bad guy. A few seconds later, he is shot from about thirty feet away by a policeman. He falls to the ground, and as the good guys approach him, he dies. There is a closeup of his death for about three seconds. There is still one thug running on, and he gets trapped in a room and there engages in a fist fight with one policeman and two plain clothesmen who, after twenty seconds of furious socking and throwing, subdue him. And then there's a commercial break. And that's the unedited, first three and one half minutes of the program.

HARRY FRANCIS:

You were not able to make any kind of correlation there, with the children and their viewing the consequences of the violence?

PAUL EKMAN:

There have been a lot of studies with the consequences in there or not. But that would have required manipulating and showing one group the film with the consequences taken out, and another group leaving it in. We'd be most interested in doing that. But in the initial study, which is all this was, we were simply trying to find out if facial measures appear to pay off. Once they do, I think questions like the one you're raising are legitimate.

HARRY FRANCIS:

Was this in monochrome or in color.

PAUL EKMAN:

All our video equipment is black and white.

MARVIN ACK:

In the experimental situation immediately following the viewing, how about measuring the delayed reaction in terms of putting the children in the examining room two hours later?

PAUL EKMAN:

I'm not in a position to conjecture that.

WILLIAM G. DARNELL:

Was their activity related to the facial expressions at the time of the programming? Did the activity in any way relate?

PAUL EKMAN:

There is activity. You get imitative movements, even from the kids who show happy responses.

PERCY TANNENBAUM:

You might mention that the kids can turn on and off. They don't sit there glued. They're looking up, stretching. Here's the shooting going on. Not all the kids react the same way, and not all of the same kids react consistently the same way with that content for that three and one half minutes.

PAUL EKMAN:

Right. You don't see just one emotional response. You see a variety of responses. The music, that is, in this program, changes and signals to the kid when it's worth paying attention. And in they come, at the right music. And then they go off and day-dream at one moment, but with the right sound they come right back. But these facial responses I'm talking about have a duration of 1½,2½ seconds. That's typical. They're not on that long, though plenty of time.

HARRY FRANCIS:

Would it be valid to have simultaneously several kids during the same program sequence?

PAUL EKMAN:

As long as, 1) they are seated so that they are not looking directly at each other, and 2) as long as you've got enough cameras. That is, in order to do the kind of measurement we do you need to fill all of your lines. So you'd need three or four cameras, and three or four recorders. You can't multiplex two or three images onto the one video-tape. You don't have enough detail that way.

HARRY FRANCIS:

Is there a difference between children in a group or with their parents, and children viewing by themselves?

PAUL EKMAN:

Don't know. We'd like to know.

WILLIAM G. DARNELL

What happens if a child turns his head?

PAUL EKMAN:

Well, we can't see him and we can't measure him. We set up our camera so that when the child is looking at the screen we have him full face. There is an avoidance response which, from my point of view doesn't really tell us anything. You can avoid for a whole variety of emotional reasons. I do know that we have a group of eight and nine year old girls and boys who we are right in the middle of analyzing now, and the eight and nine year old girls avoid a lot more than the five year olds.

OBSERVER:

May I ask if any attention was paid to the changing of the face by the movement of the hands?

PAUL EKMAN:

We have done a lot of work with that, and have gotten some very specific kinds of information on adults from the hand-to-face contact that's useful from a psychiatric point of view. With the children, and with this particular study, we haven't dealt with those movements. They do occur, but we just haven't dealt with them. They may be fairly fruitful. But on the other hand, once you're up to seventy-five percent variance, you don't think of trying anything more. It's not going to be profitable and we're not going to do much better.

WILLIAM G. DARNELL:

We have just created a whole room of very self-conscious people!

Okay -- We'd like to move on. Percy Tannenbaum has also worked with emotional arousal.

PERCY TANNENBAUM:

I'm not sure which hat I'm to put on here. I have comments to make about the earlier stuff, and the things that were presented this afternoon and the contrast between them, and then my own stuff on top of it.

I never did much with children. I have done more research with adults, infants, and monkeys. There's a lovely thing about infants and monkeys. They can't talk, and they can't understand my instructions, so I don't use interest scores or rating scales and a host of other things that we generally tend to use in audience measurement. We are forced to use what the infants, in this case, can produce from actual behavior.

Most people recall in developmental psychology that there are certain technological breakthroughs which have allowed for measurement of preference behavior in the very young. We have worked with 2-week old infants on some visual preferences and all you have to do is make them put out some energy. If they show more energy output for one thing versus another in the two chart situation, you have a measure of preference. In their energy output in sucking on a nipple, you can measure the differences if you amplify that sucking.

More generally, I would say the whole relationship between the expression of felt interest, and such things as you were talking about, and attitudes such as whether people like it or not, is very useful -- especially for commercial broadcasters (and even for educational broadcasters it might be sufficient) because in many commercial situations you are not really concerned with the audience that much; you are concerned with the advertiser.

It's different if you're concerned whether children learn or behave differently before and after watching something, like the violence. You can't use these antecedent measures. You can get them, but it isn't sufficient to stop there with a bunch of assumptions -- I'm including watching the set. Looking behavior may have nothing to do with subsequent behavior. As Paul was talking about, it reflects the attempt to get some antecedent measures -- that is, correlated measures, with the actual measuring of facial expressions; or you can pick other parameters and some index of subsequent behavior. Generally, my preference is in both directions when we want to make those kinds of statements. The others are insufficent evidence, and the jury is always going to be out there. It is not that they may not correlate. We don't know until we do it.

I have also been working with emotional arousal in the field of aggression. It is a special case for me of a more general theoretical model which is a very simple minded, perhaps overly so, model of how some communications, preferably dramatic ones, can achieve some kind of effect.

For years, you know, if you wanted aggression, you pushed in aggression and you got it coming out. It's a nice, simple conjectural model. And even that doesn't look too simple, I guess. The model is primarily under the impetus of the work of Stanley Schachter, Columbia University, in the last decade. I'll be talking about some of that. I think maybe some of what Paul referred to could preamble this. There were chuckles around the room when he said, "When the child smiled, he behaved more aggressively later on," and everyone expects just the opposite. Where do these expectations come from? We've built up little fanciful notions of the relationship that is between certain antecedents like emotional response and subsequent behavior. What Schachter was talking about was that emotional responses are generalized. They are not distinguishable. You may argue within that. Internally, between emotional states, they differentiate in terms of degree. What is differentiated is how the individual subject labels the particular situation. It says if you get stimulated internally, you are aware of that stimulation. I can't say that my heart beat was really changing or there was a release of certain chemicals in my blood stream. But I'm often aware of some changes and I ask myself, "Why do I feel this way? Oh, I feel this way because I just saw a sexy movie." So, I'm sexually aroused I feel this way because I saw an aggressive segment; so, I'm aggressively aroused. We label these with different emotional _____. The difference is in the emotional state, the consequence of our labeling.

But we took the notion of generalized arousal and applied it to the previous experimentation done in the area of aggression. What the theory would say here is that the differences between a high and a low aggressive film are not only on the basis of the degree of aggression per se, but possibly in the degree of arousal -- generalized arousal -- which we index now in physiological ways and which we can index in other ways in the future. And that in a state of arousal, heightened arousal, an individual who is called upon to perform some behavioral act -- any behavioral act -- would respond more intensively because he's more aroused. The so called "drive" stage, if you want for words. That's a simple theory.

Studies have shown that a child or adult, after viewing a film, can show subsequent aggressive behavior; and that subsequent aggressive behavior may be as much if not more a function of the heightened arousal produced by that film or TV segment than by the specific content per se. In this model, the content is relatively unimportant. Perhaps a more sophisticated version of this that would incorporate more of Stanley Schachter's notion would say, "Yes, that is so; but on top of that, the specific cognitive factors (the cognitive similarity in the film -- say, an aggressive film -- and the behavior called for being an aggressive act, like delivering an electric shock to somebody else) would enhance even further that which was produced by the arousal alone." Well, as I say, it was a plausible model. One experiment that tests that will illustrate. I won't go into the different physiological measures we use. We have to use a number of them because the psychophysiology of the human being is not a simple turn-on/turn-off phenomenon. If you want to measure blood pressure, start with heart rate; and if you want to measure blood pressure and heart rate, you have to call for respiration because a sudden gasp for breath increases heart rate. So you have to know about these.

On the basis of a set of physiological measures for pretesting different film materials (most of which have been used in earlier research and a number which we produced specifically for the purpose of this research), we were able to differentiate the degree of generalized arousal.

From this, we selected three films. One is a sexy film which turns out to be more arousing, but is judged by independent observers like us and by some subjects themselves to be actually less aggressive than the second film which is a boxing match. This second film tends to be more aggressive but turns out to be less arousing. The third film is a control film and it is below the other two films on both arousal and the intrinsic aggressiveness. Now, if it were the content factor that was causing this, one would expect the aggressive film to produce more subsequent aggressive behavior. That's exactly what happened. So the film that essentially had fewer aggressive cues did produce more subsequent aggressive behavior.

Then the person is put in a task where he has to behave. He has to administer an electric shock. The parameters here are the intensity of the electric shock (which he can manipulate on his own) and the duration and frequency of shocks. Together you can make a composite measure. It doesn't seem to make much difference which you use. This general finding has been duplicated in half a dozen studies.

On the physiological itself, I said it isn't a simple matter, and it's really not. There are individual differences in the degree of response, physiologically; but, more importantly, there are vast and very notable individual differences in the specificity of response. You may be a sweater and show up on galvanic skin response, and I may be a heart rate changer, and you may be a blood pressure changer. We are all reacting in our own way. But how can you compare whether one is acting more or less than the other when we have three different parameters. It's very, very difficult. And that specificity of response has shown up in wide arrays, not only in my research with these materials--I'm not dealing with film. Moreover, there are patterns of response within individuals which have some consistency across situations, but not as much as one would like. So, even if we can isolate person X and he is, say, a galvanic skin response changer -- okay, and that's all I'm going to measure with him to see if he goes up or down. He doesn't do it all the time. Changes do occur in almost everybody exposed to almost any material. There are consistencies across individuals, but not enough. There are these specificities but not enough across time within a person. And I'm just saying this to beware anybody who is going to go out and get an eight channel physiological recorder and go into business. You are buying a pack of trouble -- right now, at any rate.

There have been a number of studies along these lines, so let me just summarize. Yes, with more arousal we get more subsequent aggressive behavior. We don't put people in the choice situation where you do one of two things -- helping or hurting -- but we put them in situations where they have to do both. I won't take the time to describe the nature of the situation. If I deliver both punishment and rewards to another person, the question then is: Do I deliver more punishment than reward and how much under different circumstances? And the degree of both responses goes up with more arousal in accord with the primitive theoretical notion I advanced -- namely, arousal no matter how it is produced (I don't care if it is aggressive material or anything else-- You use humorous material and you get arousal and higher subsequent aggressive behavior) leads to higher levels of responses no matter what kind of response is called for -- that is, helping or hurting.

But, on top of that, you get differentiation. There was more hurting when the film was a more aggressive one (although it is not as marked as more hurting when a person is administering pain--in this case, as a punishment to someone who originally angered him as opposed to somebody who did not originally anger him. That accounts for much more variance than the kind of material itself, the content itself.

That's the first phase of our research, and I'm summarizing; but there are a lot of little nuisances that are details I won't get into.

The second phase is concerned a little more with program variation and the kinds of questions that might concern you. There are factors that accompany the presentation of violence on television with enough consistency to make it legitimate to ask the question: Do these things really make a difference? Do they limit or enhance the degree of arousal, if you want to look at that, or the facial responses? And more important, do they limit or enhance the degree of subsequent behavior or aggressiveness, or whatever you want to look at? For example, violence is often presented in a justified manner. The bad guy was getting his comeuppance for social misdeeds and is being shot, hung, butchered, or whatever, as a means of meting out justice. Or, it's a "kill or be killed" situation vengeance upon an earlier personal misdeed rather than a social one. Say that children are not seeing violence as violence, they are seeing it as justice and they are not turned on by the violent aspect when it is cloaked in this mantle of justice. Children are being shown this, that violence becomes a justifiable means to a justifiable end and they come home and the kid brother, a worthwhile target, has been bothering him and he let's him have it over the head because that's what Marshall Dillon does.

That's an over-simplified version. So you do experiments on this. It's the only way to start finding out. You don't ask the kids if they like it more or less, whether they feel more aggressive or not. You can ask him, but I don't trust what they tell me. You observe from a behavioral situation which elicits some new behavior, and see if it is elicited to different degrees. And sure enough, in a number of studies it shows that varying the kinds of justification, you get more rather than less subsequent aggressive behavior when the situation is presented in a justified manner than when it is presented in a non-justified manner.

What are the consequences? Take some aspects of the NAB poll. It is not so bad to show violence. We don't dwell on the faces of dead people. We don't see much blood and gore. You put these things in juxtaposition. We often show the violence, but not what the child has learned to be, the negative consequences of that violence. What about the effects of this? And one could argue that if you did show a lesson they already learned about something bad, just generalized bad, it may reduce the level of arousal and/or subsequent aggressive behavior. And we've done some research on that -- and it does. That is, showing the consequences does produce a lesser degree of subsequent aggressive behavior.

Now, another qualification. It has never produced behavior I have been using. It is always in the experimental task. I know of no theory and no experiment which shows that people go out and seek aggressive behavior after viewing the stuff; but, if they are put in the situation where aggressive behavior could be called upon, they are more likely to engage in it and engage in it with a higher degree of intensity. Always in the experimental context.

More recently we got involved with the whole question of censorship as applied, in this case, to the excision of certain explicit materials. It started out with some of the research for the Commission on Pornography and Obscenity -- that much maligned commission. Actually it started out in Sweden, of all places, where they wanted to take out a scene from one of their own films and worked it up into a kind of rationale. Most of the logic behind action of this kind is that the depiction of explicit material would be more arousing, more stimulating, and we don't want this. Never mind the reasons, right or wrong. They say, "Since we don't want it, it should be censored--cut it out." But one can argue that by leaving it out and leaving in the cues of what it is you're leaving out, you can be doing two things. First of all, you are forcing the person to do his own filling in and to engage in his own fantasy. And what he can fill in can then be much more arousing than what you put in for him. But more important, from a theoretical point of view, by doing the actual filling in himself, he is getting more involved; and, hence, that nebulous variable of involvement--whatever the effect would have been--has been enhanced even further by his own involvement. That's according to the theory.

So we have done a number of studies, both with explicit sexual presentation and then more recently with violent material. The data are not always clear. I can't summarize it too readily, but more often than not, when you leave out explicit materials--but always with the provision that you leave in the cues--sometimes you explicitly provide those cues like you leave out part of the movie. They know it's left out, you mark "censored," which is often just enough. We have done things where we haven't left out anything but we said we left it out. You show a sequence of scenes that seems to follow one another, but people are terribly bothered and there are a lot of questions. They get very aroused at that point and start filling in some very wonderful fantasy material. And maybe that's where good drama comes from. What I'm describing essentially is an old dramatic theory, to go back to your point--go back to Aristotle--you give food for thought, for fantasy thought and let the person do his own filling in. That's when he becomes really affected by the dramatic emotional impact.

I will describe one of our recent studies. Getting the right film material is next to impossible, unless you want to spend money through the teeth.

In any event, in the film we used there was a fight scene, and people in a room. The director sets this up. The fight starts in one room. One person has a knife and they start wrestling with one another. As often happens, one guy hits the other and he smashes through the door into the second room. The director set it up so the camera in the first room remained on, while another camera in the second room also filmed that sequence of fighting. What we ended up with was one film for one group where we had the first scene shot in room one, and the second scene with the more intense fighting and kicking, shot with the second camera. For the other group, we had the same first half, but the second half was still shot with the first camera, but you could only hear the sounds of the fight, occasionally a body hurtling across this open doorway or a fist coming up, a leg, but not the explicit material. There was much more arousal produced this second time, and much more subsequent aggressive behavior with the second version, than with the first. I'm reasoning they were filling in.

WILLIAM G. DARNELL:

We'll take about five minutes. Dr. Ack, you had some comments that you wanted to make?

MARVIN ACK:

I often get concerned that in research we measure what we can and not necessarily what needs to be measured, with no disrespect on your research. For example, you are obviously in disagreement as to whether it is arousal per se, or specificity of the arousal which will produce aggressive behavior, but is it at all possible that it is the arousal that produced aggressive behavior because there was no other tension-reducing behavior available to the indivdual? You give a choice, but obviously any arousal produces tension in the individual. And it's true that the tension must be dispelled because it is a very uncomfortable sort of experience. Had there been another opportunity for tension reduction behavior, could we have said it would have necessarily produced aggression?

PERCY TANNENBAUM:

I am trying to associate myself with the theory. The theory says that any other form of behavior would have been affected the same way, and if you want to call that tension reduction behavior, that's okay. There's a definitional problem.

MARVIN ACK:

But when we get sexually aroused in a social situation, we don't behave aggressively if there's an opportunity for sexual release, at least not unless you're a sadist or a masochist. But here, you get someone aroused sexually with your materials, but the only reduction behavior is an aggressive type.

PERCY TANNENBAUM:

That's true in this case. All I'm saying is that according to the theory, if provided with a legitimate target for aggressive behavior in a socially sanctioned situation, you are more inclined to do it. Now if you want to translate that to the open behavioral situation, who knows? Most of us, and especially those in the ghetto areas, we are told, not only see a lot of this on television, but watch a lot more television and select a lot more violent material. These ghetto people are also presented in their environment with more opportunity for aggressive behavior. Under conditions of heightened arousal produced by the exposure to the film, they might be more inclined when those opportunities arise.

MARVIN ACK:

You're right.

PERCY TANNENBAUM:

I don't know if it's tension reduction. I'm not necessarily buying that.

WILLIAM G. DARNELL:

You mentioned six physiological measures. Would you just quickly run through them?

PERCY TANNENBAUM:

Systaltic and diastolic blood pressure, heart rate changes, galvanic skin response, temperature and muscles.

WILLIAM G. DARNELL:

One more question and then we'll move right on.

COLIN MacANDREW:

I have heard of some people doing alpha and beta wave research and when you said that your physiological parameters had problems associated with them, I was wondering whether this would be an appropriate way of measuring the kinds of things you were after.

PERCY TANNENBAUM:

I think that is another response, but not necessarily a physiological response. There's a specific reason for looking at the EEG responses here, and the rationale built into that is that it's from the other physiological measures. I mention just en passant what may be the real pathological breakthrough here and that is breath analysis. I'm working with a man out at the Lawrence Radiation Labs who has developed a rather sensitive spectrographic analysis of any kind of effluent up to 4,000 different elements including human breath, and you can take a minute sample and then it analyzes these. The computer stores the spectrographic pattern for each of these 4,000 elements and then you compare the presence, the absence, and the degree of. Now what we know of the physiological stress reactions generally, is that there's a release of certain ammonal chemicals into the blood stream. And the physiological responses I'm talking about are merely a by-product of that release. They are not a direct enough measure, either. But these things travel around, they have a very short double life. You have to catch it very quick. Attempts to measure some of the output for example in urine analysis are disastrous. But the breath analysis looks very promising, and you can detect in the volume of about

five parts in a million, which is about as sensitive as any of us can hope to be, and I'm working very closely with him.

WILLIAM G. DARNELL:

To move away from the physiological measures and back more to the question of selection, we have Dr. Friedlander. I'll turn it over to him.

BERNARD FRIEDLANDER:

I would like to present what we're doing in three categories. 1) The technique we employ, 2) the kind of data we get from children and 3) the questions we ask in terms of the properties of audio-visual material and the population on whom these tests are run. If you will turn in your hymnals to this page about half way through, it will be much easier for me to be very quick in describing the data. The technique always involves a two choice manipulation that is under the child's own control. There is a switch handle which sticks up out of a box a little larger than a cup, and the subject turns the handle one way to get one onset of the TV or audio display, and turns the handle the other way to get the onset of another TV or audio display. The structure of the procedure is determined by what is in those two choices.

We have started with our work with infants in which the child in his crib is allowed to choose between his mother's voice and a stranger's voice or between his mother's voice with a normal intonation pattern and his mother's voice with a distorted pattern, and we have gone on into working with normal base line school-aged kids, autistic children in institutions, mentally retarded children and so forth and so on. But the technique is always this two-choice in which the child is in control of the onset of either television picture, television sound track or an audio display.

Let me give you some examples of the data. On the chart, we see the responses of the very bright upper middle class children in a suburban school district given a choice between narrative tellings of three stories, four minutes each in a twelve minute session. A kid could choose a narrative that made perfect sense

and was perfectly understandable, or he could choose the other option which was a story in which the voice intonation patterns were exactly the same, but the work order was randomized so that the story was really syntactic hash and transmitted no information whatsoever. There was no way to derive information other than a nominal kind of information of picking out nouns and verbs. I think it's rather astounding that the kindergarten children, first grade children and second grade children made no clean differentiation between those two options. They listened approximately equally often to the syntactic hash as they listened to the normal telling of the story.

This is quite contrary to everything that we are told to believe in language research about children in this age range because the weight of the language research has been on the competence of bright kids in the speed in which they learn their grammar and language structures. And I think one reason for the discrepancy between our results and the weight of the evidence of the studies is that we are dealing with long sequences of input such as a kid might contact in school or while watching TV or listening to radio when he can participate in an attentional way by tuning in and tuning out. But he does not interact in a personal way with the language source. I think it is very important when we are evaluating the impact of TV and radio and other sources on children, including the live teacher, that normal and bright kids are probably getting far less of the units of output than the message contains. And if they do not discriminate selectively between the up-graded message and the senseless message, it is very difficult to see how they could be discriminative listeners in other situations.

When we get the kids up to the third grade and fourth grade and fifth grade, the graph shows that they very quickly approach 80, 90 and 100 percent clear selective recognition for the normal voice.

I should say that these studies are done quite carefully. The bugs have been removed as well as we can remove them. A number of people have scrutinized our procedures and we have not been able to find any bugs that we have not thought of.

PERCY TANNENBAUM:

The task is not recognition, it is sheer selection, right?

BERNARD FRIEDLANDER:

Yes, and then we do a subsequent probe interview. We find a very high correlation between the results of the probe interview and the children's behavior. Their ability to report on the difference between the two messages follows approximately the same graph as their selective behavior. Do you think that it's a faithful report--does that satisfy?

PERCY TANNENBAUM:

I'm wondering about the negative - I can see a kid being able to make the difference, but still liking the jumbled messages just because it's different.

BERNARD FRIEDLANDER:

That's the incongruity effect, and we have great difficulty seeing the preference for incongruity go over a period of twelve minutes. Our people who conduct the experiments have a fairly intuitive sense of when a kid is playing with the switch or playing with the phenomenon for entertainment. We see some of that incongruity sampling at older ages, but we tend not to see that incongruity sampling at a younger age. The kids simply are not tuned-into the fine-grained properties of messages when they are presented in this extended fashion that does not permit the child to have on-going verification check and interpolated dialogue and reciprocal participation in the display. I think that's a finding that is probably fraught with substantial significance in the planning of information displays with children because we tend to think that kids are tuned in to information reception the same as we are tuned in to information preparation. I think that this data suggests that we may be substantially in error. Over on the right hand panel of that first chart, we see that even the kindergarten children have difficulty making the selective discrimination between English and German presentation in the same voice with approximately the same intonational pads. So you have to get up to the first grade (six and seven year olds) before these kids are making good clean differentiation

of the English and the German. None of the children in the sample were German speaking children. It was no surprise to us to discover that intonation is the most easily penetrated distortion we can introduce; that when we change the intonation and make a very flat intonation, only the kindergarten kids failed to make that discrimination.

PERCY TANNENBAUM:

I don't want to interrupt but maybe it's the choice of words.

BERNARD FRIEDLANDER:

That's a legitimate question; I should say selection. The facing graph chart shows that we use a 4-channel recorder. We can track the onset of every response the child makes. I included that in the record because I understood you were interested in a moment-to-moment responding. It is very simple to put time markers on these charts and get a true moment-to-moment picture spotting exactly what the subject matter is at any given time and the response pattern. We can accumulate these kinds of data for large groups of children.

Turning the page over, we see that we can work with individual children from stage to stage of sequential studies. It is easier for me to work backward in this top chart. This was a retarded seven year old girl and the last stage was the normal sound tract of a "Captain Kangaroo" program bumped up against the sound tract which was heavily loaded with cocktail party kind of verbal interference. We have a sample tape of five voices talking all at the same time and you can tell if there are words in this noise but you can't tell what the specific words are. We raised and lowered the level of that intrusion in order to raise and lower the degradation of the sound-track. And this child's selection behavior fell down to about 70 percent when we used that very high level of interference. In previous stages of this procedure, there was successively less intrusion and less disruptive kinds of distortions, and we see by interpreting these graphs that the child's selection was quite high until we introduced this massive kind of degradation. Her selection then became quite low.

It is always important in this kind of work to note the child's time on a task. I think it's important to get evidence of the degree of children's attention and time on task as a measure of their attention. It tends to go very high in Stage 5 of this work here, where attention was over 90 percent, and then it slumped off to below 75 percent when the task became too difficult. We were talking about attention span and attention as a dependent variable in our discussion earlier, and we have very exact measures of attention here as expressed in terms of this kind of response. Uniformly, we give the kids something that we assume they are going to be interested in, then we can test whether our assumption is correct. The data were put in just to show that this data flows right into group studies and goes into standard statistical evaluations. There is no hocus pocus and nothing exotic about it.

If you look at those tables and look at the right hand column, you will see that the time on tasks is very, very high. Only in unusual cases does it fall below 90 percent. There's nothing much else in the data that we need to spend time on other than to point out that we can get this constant running record of the children's selectivity between two options and the time on tasks.

Now we can move over to the general questions that we ask. In our basic studies with normal and language-impaired children, we are interested in fairly fundamental questions such as an infant's ability at various stages and ages, the prior experience that leads up to the differentiation of the mother's voice and the stranger's voice. That's interesting to us as a scientific question --I doubt if it is of very much interest as a question in the work of the conference.

However, when we start introducing variations on normal voices, we get into a very provocative area. I asked one student to watch a week of"Sesame Street" for me and he found that there was an average of 37 percent substantially distorted voices in the characters on "Sesame Street". We have done a lot of work on receptive language organization in children, and I don't think that any of us really knows how much of those distorted voices get through to the children as to what the real lexical properties of the messages are. I think it is a wide-open research question as to whether we are serving the children well when we use theatricalized voices in children's programming.

If you look at Saturday morning TV shows, it is very, very, difficult to find a normal, conversational voice in any of the children's shows with the possible exception of the presentational segment of "Sesame Street", "Mr. Rogers" and the "What's New" type program. The calmer, lower intensity, more relaxed program uses normal voices. The program that seems calculated to gain an effect tends to use distorted voices, and we are in a total absence of research on whether or not the kids can tune in on distorted voices and extract lexical properties from them.

In this field, if I were to ask what was an important question for research, I would say voice properties was a prime question. I would also add that redundancy is a prime question. We find that children have an unbelievably high appetite for redundancy. Given the chance to listen to twenty second and 140 second music and conversational segments over and over again on an unlimited basis, we have had some children listening to 3, 4, 5, 6,000 seconds a day of very short segments repeated over and over, and there is substantial reason to believe that certain kinds of redundancy that may be under the child's control is a very, very important aspect of learning, language learning, and information transmission. I feel that that's an area that deserves and requires a very extensive operational kind of research in order to come up with the answers that will make a difference in programming that transmits information to children.

I'll close on one other topic and say that from observing many children watching the video-tapes of standard TV programming, I'll confirm with Dr. Ekman that music is a tremendously important variable for mobilizing attention and directing attention. I believe it has been used intuitively by theatrical producers and motion picture and television producers without their really knowing how to employ music as a source for mobilizing that kind of attention that's of concern in information transmission for educational purposes.

I feel that another area of research that should be of major importance in educationally oriented TV is music. So we've got three areas that are eminently researchable by this technique and some of the other techniques-music, redundancy, distorted voices. And there are a host of

other properties. Also, to complete what I was to talk about, it should be evident from one of those graphs that we can very easily make population difference evaluation. The age differences point out how easy it is to get population differences, when populations are divided up by age. When we think of the enormous range of differences--socio-economic class, neighborhood, community, parental value structures, there is just a limitless range of variables that deserve and require research and I think that the point where the "smarts" will be demonstrated in the next ten years will be in "prioritizing" the research so we start dealing with the really important issues first and not, as Marv Ack said, "merely measure things because they are measureable," but make smart value judgements on what deserves to be measured when we are concerned with the transmitting of information.

MARVIN ACK:

When you spoke of the recall of the experience of meaningful language versus the verbal hash, what was the kind of response to that?

BERNARD FRIEDLANDER:

This was not a recall questionnaire. This was a probe interview just to determine if the children detected the difference between the two options. We have not gotten to comprehension measures at this point. I have many ideas as to how we could introduce comprehension factors into this type of research, but they are not represented here.

MARVIN ACK:

They did this thing.

BERNARD FRIEDLANDER:

No. It was correlated to their behavior...the ones that could make the behavioral distinction were able to verbalize it. The ones that did not make the behavioral distinction were not able to verbalize.

PERCY TANNENBAUM:

If you are using the probe technique as your discrimination capability, I don't know why you need the other.

Your technique is always the same, isn't it? Two options are presented and the kid selects one versus the other by moving the button. And they move back and forth, by the way?

BERNARD FRIEDLANDER:

They have to move because the circuitry flip-flops the options. They can also turn it on and off . . .

PERCY TANNENBAUM:

Oh, it's "on" or "off" rather than A or B.

BERNARD FRIEDLANDER:

The center position is "off". That's important. They have to make a move to turn it on.

PERCY TANNENBAUM:

So it is only an "on" or "off" of a given thing. But I'm still not sure what such selection means. If you are also going to use another method, namely the probe technique, as another measure of discrimination, then let's stick with the probe technique.

BERNARD FRIEDLANDER:

No. Take four conditions of stimulus degradation. Take signal noise problems, or in the video area it would be a figure grab-pot. We know very little about the perceptual properties that the kids are reacting to in video sequences, and I'm quite sure that we are ignoring very important factors on figure-ground relationships in our video displays when we are trying to maximize information translation. We do nothing systematically to control figure-ground relationships in video displays. Producers and the artists use a creative sense, but if you look through children's book shelves, you see that the creative sense of book illustrators, and the creative sense of video producers is widely at variance with perceptual reality in terms of figure indebtedness and so forth. Anyway, we get different gradations of signal degradation. When you say that this is low degradation and this high degradation, you can just see these scores march down as the children are selecting away from the degraded message. And so you can find areas and move in and expand your scales and find what the properties of degradation are that tend to disrupt properties of signal incrementation and tend to enhance the child's ability to make this differential selection. . .

PERCY TANNENBAUM:

All that I'm trying to say is that I can think of a myriad of factors that will influence a person's selection of two alternatives, or to turn "off" and "on". It may be the interest; it may be the novelty; it may not be. Here's that term "discrimination", again, that is governing and motivating the selection base.

BERNARD FRIEDLANDER:

Well, we use the terms "preference" and "selection", and if the child can make the selection, he can make the discrimination. If he doesn't make the selection, he may be able to make the discrimination and is not mobilizing. There is only one case where we have encountered a kid making a selection for the poorer messages, and that is in children below the age of 18 months. We originally assumed that the children would always prefer the up-graded signal if they were able to distinguish. The only group that has not always preferred the up-graded signal was pathological groups: the autistic children, and the language-impaired children. And the normal children below the age of 18 months didn't seem to care when the highs were taken out, when the consonants were taken out, the phoney boundary markers were taken out. They didn't make any difference to them. They seemed to be working on intonation and fundamental frequency. Do I make my point?

PERCY TANNENBAUM:

Yes, I see your point.

BERNARD FRIEDLANDER:

There is a very strong tendency for kids to prefer the up-graded signal, but the younger children and the pathological children are either not able to tell the difference, or it doesn't make any difference to them, because they can't use the signal information that is there. I think that the children under 18 months do not utilize the high frequency signal information in language that is above 6, 7, 800 cycles.

PERCY TANNENBAUM:

The messages are not at all task oriented? They don't have to learn this in order to . . .

BERNARD FRIEDLANDER:

No, there is no task orientation. The kids do it for fun.

HAROLD KATZ:

What is the implication of the distorted voices on "Sesame Street"?

BERNARD FRIEDLANDER:

If you listen to Ernie and Bert, the two muppets, the adult finds it terrific show biz. I love it, Ernie and Bert. I think that if "Sesame Street" wanted to test out the information transmission factors, they would prepare some Ernie and Bert sequences with their distorted voices and prepare some Ernie and Bert sequences with them speaking in normal conversational tones, and do this kind of study to find out if the children . . .

HAROLD KATZ:

But it is completely understandable.

BERNARD FRIEDLANDER:

We grownups are so skillful at maximizing distorted, degraded language inputs that we totally disregard children's difficulty in optimizing these degraded sound tracks. And I have one stellar display. When I gave one of my language lectures, we did some family taping in a home where the Mother always spoke to the child in English and the Father always spoke Spanish in the child's presence. The father wanted the child to grow up bilingual, which he subsequently did. And when you hear two languages simultaneously, you cannot divide a language up into meaningful lexical units if you don't know the language. The child was an inexperienced hearer, and cannot divide English into lexical units the way we do. Do I make the point? The way kids listen to languages is very much different to the way we listen to language.

WILLIAM G. DARNELL:

You made another point, I think. It has bothered me all along, but has begun, maybe, to fit into place this afternoon. I think it's the same thing that Dr. Ack was talking about this morning. I think that throughout today we have been talking in two basically different categories: One is the whole selection and attention phenomenon and the other is the whole content and resultant behavior phenomenon. I was beginning to suggest that actually the two, which there is some correlation made, maybe in a sense independent in terms of the types of measures and information that we are going to gather.

BERNARD FRIEDLANDER:

I would say that we have failed to do what most sciences do, which is try to place the phenomenon in its dimensional terms. You don't look through a telescope to see a paramecium or amoeba on a slide, you look through a microscope. And you have to differentiate the grain of the phenomena you wish to investigate and investigate the various grain levels with tools appropriate for them. While in a personal sense, I am very much concerned about the content and value functions of the information transmitted, in a professional way I am concentrating on the form of the message, largely because it has been ignored.

PERCY TANNENBAUM:

I'm going to argue that I think that most often we don't use either the telescope or the microscope. We look through a glass darkly and we're groping. For example, I would be much more convinced personally with your thing if you would put the screws on the kids. What do they do? That's the competence question again. What can they do when it's important enough to do it? As I say, I don't know why they are selecting one from the other. We're making an assumption that they prefer the clearer message. If they are not using the messages for anything, why should they prefer it? It's a habit strength. They're doing what they do naturally. They're supposed to do it in the school so they are doing it here.

MARVIN ACK:

But we do know that . . .

PERCY TANNENBAUM:

Let's get -- there are other audience measurement techniques we haven't talked about. I have used a bicycle to measure audience preferences. There is a television monitor, and if you're not pedalling there's nothing on, and if you pedal slowly the sound is going.

BERNARD FRIEDLANDER:

That's just a fancy way of making the switch resistance stiffer in a Skinner box. You have to work harder.

PERCY TANNENBAUM:

It's a fancier way to do a fundamental thing.

MARVIN ACK:

We claim that this is anxiety provoking, and it's surprising to me that children . . .

PERCY TANNENBAUM:

I also know that it's not only anxiety provoking, but it is stimulating and it is arousing.

WILLIAM G. DARNELL:

We're coming close to 5:30.

There is a question of measures that Dr. Ack has raised two or three times both indirectly and directly. I don't know whether we can even begin to speculate about measures that we haven't talked about, so maybe we will want to focus on measures and talk to that tomorrow in terms of some of the techniques that we have discussed and whether or not they can accomplish certain objectives.

Hopefully, we can get down to the level of being able to talk priorities in terms of how and for what the research can be best utilized. It may just be that we will each be talking individual sets of priorities. On the other hand, we may be able to find areas to agree on.

FRIDAY MORNING

WILLIAM G. DARNELL:

We have had one addition to our group since yesterday, Ed Palmer, from Children's Television Workshop. Yesterday as we got towards the end of the day, we started to talk about audience research as a technology, if you want to call it that -- a technology that is very much related to what you want to accomplish once you have the information.

I made a very gross cut and said there's a thing called "selection," and there's another thing called "wanting to change behavior" and "wanting to transmit knowledge." When I was talking to Ed last night, he added a few more categories which are very much in line with what he wanted to say to us anyway, expanding a bit on Harry's opening statement yesterday in terms of the user. It also ties with some of what Dr. Ack has been saying. To begin this morning, I would like Ed to talk to us in regard to the need for audience research as viewed from his seat at "Sesame Street" and Children's Television Workshop, where he is Director of Research. He has been trying to provide information for producers and has done so quite successfully. Ed, why don't you take it for about 15 minutes and then we'll see where it goes from there. We have no particular agenda this morning other than to attempt to crystallize the problem areas, or need areas, in audience research and relate what we discussed yesterday to those areas. Then, if we're still going at that particular point, maybe we can talk through the whole question of "what are research priorities at this particular juncture?" as far as broadcasters, researchers, and the like are concerned. Ed . . .

ED PALMER:

I didn't think I would have the opportunity to go through the usual conference dynamics of laying my "thing" out, but here I am, starting right off in the morning, and getting to give you my "bag." It's a bright spot for me to see a conference on methods. At the present time, I'm ready to lay substance aside and to tend to methods for a while. I'm much more interested right now in methodology and the technology that is associated with it than I am to the questions of substance, although certainly you can't ignore them. I understand from my little briefing of yesterday's meeting that this point became very clear. It's a "bootstraps" kind of phenomenon, and you want the best repertoire of methods when you have a question of substance. It also doesn't make much sense to study methods unless you anticipate applying them to questions of substance.

I just have a few notes on areas where I think a conference like this might lead. I think it could lead to further methodological study, further specific application, and that it could lead us to address some very significant, current, broad, social issues. For the first category, for methodological study and development, I think we know precious little about "attribute definition" which ties results back to the television content and says, "These attributes in the television content are bringing about these fluctuations," in whatever measurement, albeit palm sweating or visual eyes on screen. Whatever your criteria. We really don't know much about defining the attributes that bring about those effects. We need a good bit of work in that area.

I would like, for my own part, to know a good bit more about attention variables, or reaction variables of various sorts. The variables, the parameters, the correlates, the theoretical kind of tie-ins, the constructs, and so on.

A third area for methodological study, as I see it, is hardware sophistication. We have a lot of primitive systems around, and not very sophisticated technological form. And, I think that their use would be enhanced by their being put into sophisticated form. They would be more efficient to use. They would be more effective. More people would use them, more people would communicate with each other. There would be more sharing of information. I take it as given that this is all worth doing.

Getting away from further methodological development and its applications, I see a set of maybe four main functions or areas of decisions which could be served or addressed as a result of audience measurement. Theory development in basic research in the field of psychology is one area. And even here, the theorist doesn't always begin with the theory and go search for the method. Again, that's a "bootstraps" thing. Or even in some cases, psychologists have a term called the "law of the instrument"--given that there's a method around, psychologists will find reasons to use it and ways to tie it in to the development of psychological theory. The availability of the microscope certainly opened up areas, so why shouldn't the availability of audience measurement methods similarly open up areas of inquiry?

Second, I think that audience measurement can serve producers in the production decision-making process of putting together television programs. This formative research function is the function that we're most engaged in at the Children's Workshop in getting together "Sesame Street" and the "Electric Company" our new reading series.

The third area I would call "operations." It is not that you're designing program material, but you want to make some decisions about what to design for whomever to see, and audience measurement methods can tell you the propensities of any individual if that happens to be useful in making assignments of material. So I think that audience measurement can help in making operational decisions -- if you happen to be a classroom teacher, for example. Or, in the case of Joe Spaid and Jack Bond, the question is how do you find materials most suitable to a category of kids like the mentally retarded, or the deaf, or whomever. And those are operational decisions.

The fourth item on the list of areas of application is for summative research purposes; that is, you've done something that has to be evaluated and somebody has to make a management decision, a cost-effectiveness decision, or whatever, and audience measurement can be helpful in this evaluation of the ultimate effectiveness of the program.

Getting away from areas of application (and if anybody sees areas of omission there, by the way, I would like to fill out my list) issues that should be addressed if we had more sophisticated audience measurement methods. We don't really know much at all about the universality of appeal of various kinds of programming. We don't know universal versus differential appeal of various kinds of programming. We don't know universality versus differential appeal according to demographic categories. We don't know what appeals more to boys than to girls at different age levels. We don't know the demographic clusters that attach to that particular kind of program content as opposed to some others. That's one way of conceptualizing it. And that information would be very useful for a variety of decisions -- sociological, theory-building decisions, or commercial television production decisions.

I think another major social issue has to do with the question of whether appeal or taste for television fare can be built. I don't shrink from the assignment of the responsibility of saying some values are more worthwhile to impart than others. I think that there are some dangers in saying, "Give the individual what he wants." I think that there is a danger in getting overly concerned with audience measures and methods so that we perpetuate the attitude that has at least been attributed to commercial, network television programming--the attitude that we're giving the public what it wants. I do feel that I could subscribe more to searching for ways of building taste, but I am very realistic about it. If we're using the commercial airways, you also have to give them what they want, and what attracts them. You also have to build their taste and at the same time you have a big audience. I don't think that that's an impossible task.

The final area--maybe I shouldn't mention this--the whole violence issue gets so much attention already, but the other area happens to be one of very keen interest to me. It has to do with television violence, and I think you can address this social issue through the results of audience measurement applied in this way. You really do want to maximize the audience. That's what sells television programs. That's a reality. But the question is, what forms of television programs, other than violence, are equally or more compelling in their ability to hold audiences? And, if that's demonstrated, then there's not much excuse, in my point of view, for commercial television producers to continue producing violent fare. Now there's violent fare and violent fare, and indeed forty-three types, and I think probably as Dr. Tannenbaum pointed out yesterday, there are various functional concerns all related to it. It's a very complicated question. But still we can address that question very truthfully with audience measurement techniques, so that a seminar like this could lead, I think, to all these areas. Just recapping and summing up could lead to various areas of further exploration of various areas of specific application which I enumerated, and it could lead to studies which would address highly significant social issues. I think that a seminar like this is very important for all those reasons. And that's what I have to say.

MARVIN ACK:

I agree that a conference like this is extremely valuable. But it seems that there are still some initial reservations as to the merit of trying to study something before you know what you want to study. And you say audience reaction is a generic term because the audience could have 1000 reactions, and you may study one only because you are capable of studying it when indeed it's the others that relate significantly to the problem and goals of your programming. I have a feeling that we're going about it a little bit backwards, and it may not be possible to come to more specific conclusions short of knowing what the goals of a particular program are, etc. There are certain general things which you must concern yourself with. Obviously, you've got to get the audience's attention, and it would be good to know how no matter what the goals of the program are. But beyond a very few of these, I'm not so sure that we just don't spin our wheels.

WILLIAM G. DARNELL:

Though we may be talking about differing kinds of methods, there are different kinds of measures that fit within a given methodology. Psychologists have a kit bag of methods.

PERCY TANNENBAUM:

Well, if I can pick up on that, that's the poorest model to use. The psychologist has been guilty of all sorts of things but the biggest guilt is walking around with this kit bag, like a plumber, as if he could fix any leak there may be. I think Dr. Ack's comment is very appropriate and psychologists have been very poor about this. We'll give you an IQ test, a Rorshack, this, that, and the other thing and it may be totally beside the point, and usually is. And, we have become a bunch of psychometricians; and we wake up and ask, "What does that IQ test really mean?" And suddenly we find out that it's culture-bound . We didn't look at what the problem was and what we were trying to measure as long as we had a measure. I think that's happened in the industry and all other phases of so-called audience measurement. Audience measurement is as audience measures do, and vice versa. And psychological IQ tests measure intelligence, but what's intelligence? What are IQ measures? While we're measuring it, we don't stop and find out. There are many, many different purposes you want to explore. I tried to allude to some of these yesterday and a number of other things. You want to measure the effects of say, violent content. You try and develop a set of measures for that purpose. But you don't go in with your kit bag and do studies of interest.

B. ALLEN BENN

But doesn't goal-setting and measurement go hand in glove?

MARVIN ACK:

I think it's ideal, of course, to measure all along with it, but both Dr. Tannenbaum and I say that sometimes there is a danger that we don't set the proper goals because we have no accounted measure for it. So we accept goals which we can measure and it bears no relationship to the problem as it turns out. This is a very, very frequent finding.

WILLIAM G. DARNELL:

Let's take an example then, and maybe we can sort through and dissect goals as a large category. Then let's take the "Electric Company" and see if we can unplug it at the same time. It's an example of a television program. It's one in which, up to this point, Ed has dealt with the question of formative research, and probably in the area where it is most difficult to handle. Let's try to put your program together. Okay, as you enter your whole area of audience research (as related to putting a program like the "Electric Company" together), what are the kinds of things

that you have? What are the goals of the Children's Television Workshop relative to the "Electric Company"? What are the things that it has to do in order to be successful?

WILLIAM MILLARD:

Pardon me, do you see what's happening here? We don't set the goals. They are set by the researcher, by the problem, by the objective, by some outfit that wants something accomplished. Unless a pure experimenter like--here he is, Tannenbaum--can set certain goals and say . . .

PERCY TANNENBAUM:

Ninety-nine percent.

WILLIAM MILLARD:

But here you have a priority level program you want to get out. You have certain things that it's supposed to accomplish and in a sense the goals are being set for you.

ED PALMER:

But to a certain extent, though our goals are out there and in a sense set, somebody has not recognized them yet. You can have ultimate objectives and have instrumental objectives. You can have goals you must achieve to arrive at your ultimate goal.

MARVIN ACK:

More dangerous is that you often have implicit goals and don't know them. A good example is the educational system where you have implicit principles so that if you line six children up in a row, seven deep, somewhere there imprints an assumption that that's the way kids learn. Otherwise, why do it? Everything one does has at some point an implicit, if not explicit, explanation.

I think that in the establishment of such a program, one of the things that you must concern yourself with is the hidden agenda. You have certain specifics that you think you are trying to accomplish and you must also be concerned with the other motivators that exist in you and the rest of the men producing or putting together a show of this nature.

ED PALMER:

Yes, indeed. In fact, it's interesting--let me come to the way in which the method relates to the producers. We're tailoring our methods on assumptions about producers, but quite explicitly. But let me come around to

that. We were very fortunate to have a period of a year and a half before the premier on October 25th of the "Electric Company". We set a lot of goals: to reach children, to maximize the audience--that certainly was a goal. Our target audience is a specific audience, a well-defined audience of 7 to 10 year old kids who are experiencing reading difficulty. We set a number of quite specifically stated, behaviorally stated instructional objectives which were identified to large numbers of reading experts, media experts, and all the rest in a series of seminars. I think we are in the fifteenth revision of our statement of quite explicit objectives. The producers are producing material and every statement they produce is specifically addressed to an explicitly stated instructional objective. We want every segment to be entertaining and educational at the same time. When you start putting together a set of methods and studying this effect-- in our case, we came down to three categories, not just three methods: a category of attentional measurement where we don't use just one method, but a set of methods. We use a distractor method. We tried other methods which might be more suitable to this age group.

PERCY TANNENBAUM:

What sample would you test your "bag" of audience measures of attention on?

ED PALMER:

Seven to ten year old kids who are experiencing reading difficulties.

PERCY TANNENBAUM:

And you don't do it on 7 to 10 year olds who are <u>not</u> experiencing reading difficulties?

ED PALMER:

We certainly have the final objective of reaching these kids.

PERCY TANNENBAUM:

That's one difference from what most people were talking about yesterday; that is, you have to find an audience ahead of time.

ED PALMER:

Oh, yes.

PERCY TANNANBAUM:

It's not all 7 to 10 year olds all over the world.

ED PALMER:

Not all over the world . . . But, we assume that if this show is not popular with other kids, if it is a put-down to admit to watching the show, then we are not going to hold our audience. We've got to have a show that is attractive and appealing across the board. If there are older brothers and sisters who control the set for these kids, we want them to watch the show, and so on. There are these other factors running, too. They are very important by the way.

But we do all our testing on the kids who are experiencing reading difficulties. We have used a variety of methods. We tried adapting the Stanton-Lazarsfeld Program Analyzer to our needs because we thought that for the kids older than the "Sesame Street" age, we would need to change our methods. Not so. It didn't work. The distractor still worked well. My criterion is: do the producers keep coming to me for information, for more studies, and say, "that's useful, I'm using it," and so on. So we have a family of methods--a set of methods--the distractor method for watching kids watch the set and asking them afterwards in interviews what they remembered in an attempt to get at what was salient, not just what was immediately attention gaining. What sticks with the kid? What might cause them twenty-three and a half hours later to be back at the set turning the knob to get some more of the same? That sort of thing.

MARVIN ACK:

Do you see the apparent contradiction between using one medium to plug another; that is, television to plug for reading?

ED PALMER:

Quite the contrary. I find that to use a static printed page is probably going to go out of style. You have so much more going for you when you can animate print, when you can control the attention scan across portions of the screen, when you can make the reading of that one word contingent upon some understanding. Reading theory is based on reading practice and not on possibilities. And television opens up a whole world of possibilities for addressing the problem of teaching reading. We are just breaking the surface.

But, in addition to doing attention measurement, we do two other categories of measurement, because our objective is to reach kids and to teach kids. We do comprehension testing at any given moment. What does the individual interpret to be happening on the screen? Does he comprehend a plot point, for example, as it's going by? Now we are just getting into correlating comprehension with attention and we have found some very interesting and very encouraging things about people when they are understanding--they're watching more. That's encouraging to me!

MARVIN ACK:

Can it be the other way around?

ED PALMER:

When they are attending, they are comprehending? I don't think so. We don't assume anything is happening inside at all. He has his eyes open.

WILLIAM MILLARD:

But when they are comprehending, obviously they have to be watching.

ED PALMER:

They have to be watching, but it turns out that comprehensible material is more appealing than non-comprehensible material for a kid of a given comprehensibility level.

WILLIAM G. DARNELL:

Can that be explained in terms of the whole reality/fantasy shift?

MARVIN ACK:

I think so. It's an extension to the material that Bernard Friedlander presented.

ED PALMER:

Our technique is very simple--well, it's not simple; in fact, it's the family of techniques that we're just beginning to explore and develop and I hope somebody here has done more work than we, because often a lot of people discover the same wheel. Anyway, for the viewing subject, we run segments--maybe once, twice, three times in a row on a video recording machine--and then we'll run the same thing with the sound off and ask the subject to fill in that blank. In another treatment, we will run the segment and the second or third time we run it with the

picture turned off but the sound going. We ask the subject to fill in, and we'll find out what he knew of what goes by. This way, we address both the audio portion and the visual portion. Okay, so there is the family of techniques. We can freeze the frame and say, why did he just say that? What's he doing there? And we can see how the viewer is interpreting, understanding, or comprehending whatever is going by the screen. Now we can relate that back to attention measures on similar kids from the other method. And that's what we try to do.

We also try to use various forms of achievement measures because we really do have specific achievement objectives. We build standard tests where the kid is asked to read a word, or identify this letter or that letter, or to fill in the blank, or pick out a letter, or respond to a multiple choice item. We have specially designed sets of tests to test these stated instructional objectives and we relate all that material back. In the process of this, we often find that, in attempting to get attention and get the instructional point across at the same time, what we're doing to get attention is competing with what we're doing to get the instructional point across. I remember one little animation we did that was the first one we ever put out. We were trying to teach the letter "J" and we had it static in the upper left corner of the screen and some little guy dancing a jig down in the lower right. The kids paid all their attention to Joe the Juke Bug and they never even saw the printed letter "J" that we were trying to teach them. So there we had it going in competition. In direct response to seeing that happen, we designed segments where someone wrestles with the letter. The letter was part of the dramatic action and the kids learned better from it. And they attend more simultaneously. They don't have to compromise attention and learning as it turns out. Or, at least, that's one of our premises. Now, what was the original question?

HARRY FRANCIS:

Why did you test the Program Analyzer and then not use it?

ED PALMER:

We tested it because we knew of its availability. The Distractor method was really designed for little kids who we assumed couldn't give a very active response. It came out of a study of a search of ways for testing kids from 2 to 5 years of age, which I completed before "Sesame Street" was conceived, I guess. We wanted to explore the various methods that might be available to see what would be most appropriate for 7 to 10 year old kids. There was a thought that with these kids you could get a lot more conscious response. A button pressing

response I think would be a much more cortical kind of thing than an attentional response which is a primitive brain stem response. But I think that when the kid is in the Distractor method he is very unaware of the information he's giving out or the fact that he is judging the material.

FRANK FURBISH:

Is your Distractor material standardized on all aspects and played in the same sequence each time, or is it variable.

ED PALMER:

Only by chance would it be the same for two successive kids--the same set of slides against the same set of program material.

WILLIAM MILLARD:

Before we get too far away from brushing off the Program Analyzer approach, we have been doing this for ten years with kids from 8 to 12 years old, and it has worked very well.

ED PALMER:

Okay. I remember the initial question. It was how does the method relate to the producer himself? What do you assume about the producer himself? What do you assume about the producer as a person in putting together the method? Well, one of the things that we wanted to do was to cause the producer to attend, moment-to-moment, to the program he was putting together. We didn't want him to say he had a popular or an unpopular show with the frame of mind you have when thinking about Nielsen data. I really assumed that if he uses a research method that puts out data every seven and one-half second interval . . .

WILLIAM G. DARNELL:

How does a Program Analyzer do that?

ED PALMER:

Coming back to Program Analyzer, it turned out for us that it didn't give full data on the part of every subject at every data point. We built a poor man's version with a red button and a green button, and we gave these to little kids and asked them to respond. The instructions to them were something of the form that we saw given at the CBS building in New York where the master machine was installed. We told these 7 to 10 year olds

(again, remember they are experiencing reading difficulties) when you see something you like, push the green button; if you see something that you don't like, push the red button. But what happens as they are watching a half-hour program or a fifteen minute program is the kid's going along and he's liking what he's watching so he pushes the button for you, and pushes, and pushes, and pushes--or not. But continued persistence in pushing or non-pushing is not necessarily correlated to liking and not liking. The kid gets caught up in what he's watching and he uses this.

PERCY TANNENBAUM:

Maybe he actually likes things and keeps on pushing. Now, how do you separate the actual data from your assumption?

ED PALMER:

You look at the data, and you look at the television content on a moment-to-moment basis, and nothing in your guts tells you that it has any correlation.

WILLIAM G. DARNELL:

Sounds like what Bernie Friedlander was talking about yesterday. There are two differences that stand out to me between Distractor Analysis and the Program Analyzer; and we'll simplify it. One, the Program Analyzer, and I'm thinking now of Bill Millard's version which has the little thing that has to be moved around. You have the subject participating. In the case of the Distractor, you don't have the subject participating. And we were talking before about sounds and the keys of sound as far as queing, and the fact that you can, in fact, be attending to a television program -- even to an instructional program, even to learning from that instructional program, using sound only.

PERCY TANNENBAUM:

There's a big difference between the two. The most fundamental difference is you are measuring two totally different things, and if you want to insist on putting them together, you may be wrong. They may correlate at times, but then again, they need not. One is a judgment of preference or liking and it is a judgmental matter. Another is a measure of what a person is doing. You can attend and not like it, or you can attend and like it, and vice versa. So I don't see a necessary correlation between the two, and that is the fundamental difference.

ED PALMER:

How would you get liking and not attending?

PERCY TANNENBAUM:

Easily.

ED PALMER:

There is a term used in advertising called the "discount factor" -- that an audience looking at a claim in a commercial will discount that claim according to some of the motives of the claimant. Our producers work with a discount factor, also, they used the distractor material. We insist that they do, and that they not assume that it's giving them auditory information. In the case of the "Electric Company", case in point, we wanted to simply and directly address the kids with a directive once in awhile -- to very directly say "PH" and "F" both have the "F" sound, and to simply say it straight out. This could be very tedious and you could lose your audience. So our producers designed a guy called Crank, and he calls on the telephone and says, "What was that all about?" -- you never see Crank, you only hear him. So all the instruction is coming through the auditory message over the auditory system. To look at the distractor graphs, when Crank comes on the lines go right down to the bottom. They don't have to watch. You relate it to the achievement data and they are learning something from it. That's all right, so we don't pay any attention to the distractor data in that case.

COLIN MacANDREW:

Have you addressed the question of what the audience perceives itself as doing? Do you want the 7 to 11 year olds to sit down to that set in order to enjoy themselves and get them to learn how to read? Or do you want them to sit down and learn how to read and, by the way, they might just enjoy themselves? How do you want them to feel?

ED PALMER:

One thing became very clear. You're not going to deceive these kids about the fact that you're teaching them reading. But, now we enter into the realm of purest speculation. In most cases, when we have a second class citizen we give them crap in this country. We really do. We give them ghettos to live in. Give us your sick, your poor and all that stuff -- I don't want to get up too high on my soap box, but isn't it going to be a rather remarkable thing that here we have those kids who are punished as they sit in their reading circle, if only by the fact that they are stumbling and the other kids in the reading circle aren't.

But here we have a non-punitive medium for one thing, and that's great. The kid can watch anonymously and he can learn painlessly, I presume, but he knows he is learning and he will be learning from a message presented in a palatable form. I think he will enjoy that. The upshot of my soap box spiel is that in connection with second class citizenry this kid is going to recognize that he is getting a thing of "class" that is getting a lot of publicity. It's flashy, and it's for him and his problem. That's an important point.

WILLIAM G. DARNELL:

I want to finish an important point. You talked about selection of kid's problems. You talked about content knowledge learning. Dr. Tannenbaum and Dr. Ekman talked about resulting behavior. Sometimes that resultant behavior is something you're trying to accomplish and sometimes it isn't. But you should be aware of the possible resulting behavior. Dr. Ack discussed some behaviors resulting from watching the Cookie Monster.

As you go back to what your objectives and goals are for the program, there are certain resulting behaviors that you want. Okay, you want the kid to go and look at pictures in a book, for example. But we don't want him to beat up on the kid next door because the Cookie Monster has gotten to him. How do you deal with that? Is this the area that is most fuzzy at this moment?

ED PALMER:

We deal with it constantly and very seriously. We get an enormous number of responses: everything from the lady who testified in Congress that "Sesame Street" viewing is going to create a generation of drug addicts, to the Women's Liberation who came near to picketing us, to a response from the Spanish-speaking community that we were not doing enough to address their particular problems.

PERCY TANNENBAUM:

What do you do about it?

ED PALMER:

We do everything that we possibly can. We set up Boards of Advisors to be responsive. Everything that you do has some possibility for a socializing effect. It's a side effect in many cases, or a wanted effect.

PERCY TANNENBAUM:

Ed, say I did a study five years later and I found among viewers of "Sesame Street" that there was a higher incidence of drug use than among non-viewers and I came back to you with this hard data, you would say, "Gee, how can you say 'Sesame Street' caused that?" Right? Or would

you accept that?

ED PALMER:

I would probably deny it. I wouldn't want to believe it, if I could, but say that I couldn't.

PERCY TANNENBAUM:

That's the one problem we have in this business. There is a difference of one standard deviation in reading tests -- we say it's an effect of "Sesame Street", if there's a difference in the deviation in drug use, we say it has nothing to do with it because it was not listed in the objectives in the beginning and so on.

ED PALMER:

I know that Bill and Allen Benn here are probably as heavy as anybody in the country concerned with cost benefits analysis, and the question is, if you put in the cost, what's the benefit? Has it been worth the cost? And, so on. You also have tradeoff factors. What have you given up for what you've gained? These are all factors to consider. And the biggest problem, I would guess, although I don't know anything about cost benefit analysis is in getting a handle on the benefit.

WILLIAM G. DARNELL:

You will probably hear about it if it is a negative benefit.

PERCY TANNENBAUM:

I don't know, maybe more drug use is positive. I'm just talking about attribution of the effect before I make a value judgment.

BERNARD FRIEDLANDER:

How do they link up "Sesame Street" to drug addiction?

ED PALMER:

The logic is a little difficult to follow, but it goes something like this. It is a very fast paced show that creates a lot of excitement, and later on in life kids will never be able to stand an empty, unexciting moment. Not being able to tolerate an empty moment, they will go out and take drugs.

BERNARD FRIEDLANDER:

Did the lady that reads to me teach me to read dirty books? Are you ready for the ones who are going to say the "Electric Company" is going to teach them to read dirty books?

WILLIAM G. DARNELL:

My point is that there's a base to that argument and it's not hard to connect up to exactly what we went through yesterday in terms of the whole general theory of arousal.

ED PALMER:

Fortunately I don't have to resolve this. We share this with an advisory board of the best heads we can put together. People will make judgments and . . .

PERCY TANNENBAUM:

People are making them, but not doing the judgments, the research. You have research when judgment isn't adequate.

ED PALMER:

Let me give you a very direct response to what you're asking. The question came up whether some of the flashing materials on "Sesame Street" initiated epileptic seizure. There was a report from a physician in California that parents of two of his patients had reported seizures coincident with "Sesame Street" viewing. We commissioned a guy to study that phenomenon, to study those pieces of materials, and to investigate very specific cases and their pattern. We got a full report and recommendation and reviewed it carefully.

PERCY TANNENBAUM:

Let me talk about the other one that came up in England about your approach to teaching. In addition to learning reading, you want the show to be popular and so you use the kinds of tactics that you decide will make it popular, by research and presentational factors and so on. The by-product of this, intended or otherwise, is a greater susceptibility to that kind of advertising appeal for all sorts of products.

ED PALMER:

Teaching reading for a greater susceptibility for reading pornography . . .

PERCY TANNENBAUM:

No, teaching by certain techniques. Teaching "A" by a certain technique conditions you for the technique and not for the skill. Or it's in addition to the skill. This is a well established psychological fact, not on the kick-back of measures, but of theory, and there's nothing

bizarre about this kind of argument. And that is what your lady in England was concerned about. Not only is it hucksterism duff, but it can have unwanted side effects. It's perfectly plausible. It is quite separate from the epileptic one which is a very specific thing that may never hurt a producer. It may actually exist, but you can test that out rather quickly. But this other thing is more long-term testing, and so on. And the very success of your program is why you guys get asked these nasty questions.

MARVIN ACK:

You see, it really is an important question so far. In fact, there are two we spoke yesterday of, pleasure as one of the principles of learning and we said that one of the experiences of pleasure is the solution of problems. But if you produce learning in a picayune method which is incongruous for learning in any other way outside that "Sesame Street" show, you may have ultimately produced a conflict.

There's another context in which something occurs. A mother spanks a child. The child learns he had better not do that. But he may also learn that it's okay to hit somebody as long as you're bigger. How can you tell what he's going to take out of that situation? And the context in which something occurs is usually much more important than the specifics.

WILLIAM G. DARNELL:

Well, we may be in a dilemma that we can't get out of. As we said yesterday, a given piece of material for any given person can create any number of specific reactions. We were talking about facial expressions within the case, but it seems to me to be a trap of mass media generally. It's a box that we can't get out of. It's a paradox in the sense that mass media puts its offering out but it has not real control over who sees it. Its target is the largest number of persons that it can reach, which is fine, but as a result, there are sub-groups within the population who are going to come across it and have negative effects from it. Education, generically, is in the same category. It is a mass operation thing.

I wonder if we can do anything about this? I suppose we can build the body of research data. And let's close out the studies of Tannenbaum, Ack, Ekman and others. We can isolate and identify the types of creatures who are going to react in certain ways to given offerings. But until we have some control over who views our programs, can we use that? I'm thinking of the number of examples that you gave yesterday, and we're talking about the 5% phenomenon and the 2% phenomenon.

PERCY TANNENBAUM:

Well, I'm much concerned about this. The nasty lesson of the last couple of decades is that our mass system of everything, our whole economic system created a minority of five, ten, fifteen percent of the population (depending on where you draw the line) who get short changed. And suddenly you want to appeal to them, and so you design a special program for them and the more successful that special program is for them, the more it creates another minority who are also getting short-changed for a different purpose. And you say that's a necessary by-product of everything we do. We never are 100% on anything. The very tactics that may teach these kids to learn may well teach other kids not to learn. It may turn them off in school because the teacher doesn't do a jazzy jig.

HAROLD KATZ:

I think that's a by-product of technology.

WILLIAM G. DARNELL:

Yes it is!

HAROLD KATZ:

The fact that the only way to deliver the information is through mass transport. If you want minority programming, you have to be able not only to create the program but find an information channel that directs it to that minority exclusive of the others. As long as you are on a mass transmission, there is no way . . .

PERCY TANNENBAUM:

Not necessarily, we can forewarn. We do this through government. Why don't you do the most logical thing. If you have the information, tell people. They can still make their choices. Let them do the selection. That is what freedom means. But give them a range of selections and give them the information, as much as you know, with the uncertainties you have, to guide their selective process. Then, if they want to be a member of the minority, that's their business.

HAROLD KATZ:

But in television you're faced with technical limitations. You have a certain amount of information to broadcast, and a limited channel capacity. You have millions of people whom you want to subdivide . . .

PERCY TANNENBAUM:

Even with the limited channel capacity, we are not using up to those limits. . .

HAROLD KATZ:

But how many million people have access to ten channels? Seven million. How do you subdivide the programming to make it significant? The numbers just don't work out right. You need another delivery scheme. If it were magazines or printed materials you could send for specific individuals and get a minority grouping. People have the ability to select. But you may wish to sit at home and select one of a thousand channels but there is no way of getting a thousand channels to you.

PERCY TANNENBAUM:

I grant you, when the technology of cables is more expandible, we'll have a greater range of choice. What I'm afraid of is given that greater range, we're not necessarily going to have greater choice. If it is still going to be the law of big numbers that's going to dominate (Which dominates now and I don't see any reason why it shouldn't), and if it is going to be a commercial medium, then that's what everybody is going to want to grab.

HAROLL KATZ:

If they see both the commercial medium as well as a social medium simultaneously . . .

PERCY TANNENBAUM:

Why can't the ten channels be available?

RICHARD GIDEON:

First of all, there aren't ten channels in most cases. We are dealing with New York and that's about it, or maybe Los Angeles, it's more like four.

WILLIAM G. DARNELL:

Well, he's talking of channel capacities, not the number of stations that are on the air.

RICHARD GIDEON:

It doesn't mean anything, who's going to put them on.

PERCY TANNENBAUM:

Channel availability doesn't mean a thing unless you produce programs for it. If the programs to be produced are to sell to the largest number, we are going to have

more of the same kind of competition. We are not going to necessarily have diversity even though we have the opportunity for diversity.

HAROLD KATZ:

I agree with you if the materials could be prepared in a static form. Maybe if you are going to produce something we could put it on film or tape and have it distributed. There is a limitation to the diversity of that material and it's going to be very expensive to produce.

What other kinds of programming are available to you now that do not have these cost factors involved, and are easily disseminated? Why don't we look closely at why the answer is always negative everytime you ask the question. We're up against a stone wall every time this topic . . .

MARVIN ACK:

There is something that is not always recognized and it's the best of American education, in the broad sense, that is, problem solving. The truth of the matter, of course, is that the solution of every problem is the creation of three more problems. But we never try to say, if I solve this problem what problems will I create? You want to solve a reading problem, and all we are asking is that you be thoughtful about the other possibilities that will occur, not that there are many necessary by-products.

ED PALMER:

However, we do give attention to it. In addition to identifying the goals we set, we have asked our advisors, and we have asked ourselves repeatedly -- will this actually interfere with anything, with the reading programs going on in the schools? Will it have any negative effects? It gets to be an awesome business when you are getting out to seven million kids a day with an hour long television program and a very complicated format. It has different people relating to each other in different ways which become models, it has flashing lights, it has infinite consequences. Some of them are going to be negative and unavoidable. Somebody is going to have to say, "It's okay, anyway, because of the grains and who . . ."

PERCY TANNENBAUM:

In any business, you see, as long as enough people like it we won't look for the other things. You don't look at them with the same degree of purity and effort. You have this battery of measuring for these, but not the others. The others are decided by a panel of knowledgeable, interested, responsible citizens.

ED PALMER:

One thing that you can do as a program policy posture, is to take the conservative approach and change something. At first I think this is very germane to the question of programming and television violence. That is, if there's a possibility that violence in children's television programming, and television in general, is going to have a negative effect, then to the extent that you can control that, simply don't do it because there is a possibility it hurts. The networks tend to take the point-of-view that until it's proven negative, they will go ahead and do it. I think the very practical reason that they do it is that producers can crank that stuff out very easily.

HAROLD KATZ:

One of the questions of the side effects of the given program is one issue to the question of trying to answer the request that Spanish people have made.

ED PALMER:

They are saying that they are not being treated as a side effect with a definite message.

BERNARD FRIEDLANDER:

This is directly related to what I have been wanting to say. It's a general issue and it's specialized subject treatments and selective audience. It's easy to illustrate with a reading model and I happen to know something about reading and language. There are about 6 or 7 major categories that can account for kids not doing well in reading in school. There are about 35 to 40 percent of the kids who are less responsive to reading than the teachers think that they should be. In fact, 50% are below the mean. So we are dealing with a very large category of kids with reading difficulties. There are 7 or 8 major sub-categories, and these sub-categories are very highly differentiated. They are so thoroughly differentiated from each other, in fact, that I can make a professional judgment with great confidence that your program, no matter how good it is, will probably only deal with two, three, or four of these sub-categories. . .

PERCY TANNENBAUM:

With only some of the kids.

BERNARD FRIEDLANDER:

But here's where you get to the selective audience business, selective treatment, and audience misuse. I also know about public schools, and what they are going to say is, "Well we tried this on them. We tried that on them. Then we tried "Electric Company", and they still aren't reading." And then the kids are thrown away after they try X, Y and Z.

ED PALMER:

They are thrown away already.

BERNARD FRIEDLANDER:

I'm not blaming you for that, but you've got these selective instructional objectives which are very difficult to sub-categorize in a diagnostic sense. It's a problem. There is no answer. There's no moral posture that is going to solve the problem; no policy, and no tactic.

ED PALMER:

There are tactics that can help. You can set advisory groups, you can set up studies -- acquire information, you can read your mail when it comes in. You can design a program that's evolvable, you can share the review with the best . . .

BERNARD FRIEDLANDER:

I remember an old article that I wrote dealing with five fallacies of educational innovation, and one of them was the fallacy of the best brains. The general burden was that when you get the best brains working on a problem, you are not necessarily any closer to the solution . . .

HAROLD KATZ:

Should we turn to the measurement problem for a moment, Ed, because part of our interest is in measurement techniques. What samples do you use and do you think about testing them in the normal environment? What are the limitations you can now see in your current test procedures?

ED PALMER:

We do performance testing with children, predominantly when you can get them in groups. That's for efficiency's sake. So we go to schools. The "Electric Company" was designed to be seen by children at school or at home.

The big follow-up study on the "Electric Company" is being turned out by Educational Testing Service which tests children exclusively in schools because that's where you can get to them to test them. But some of them are in towns where they can only see the show after school, at home. So we will be testing in both places. We will be testing its effect on first graders, second graders, third graders and fourth graders for in-home and school viewing. Of course, we will be testing its effect in relation to the two or three major types of reading instruction.

HAROLD KATZ:

You are working with a very small sample. How long does it take to work with these?

WILLIAM G. DARNELL:

I think Hall is heading toward what I thought about as soon as I saw the demonstration of interactive television yesterday. If your kind of work requires taking kids out of the home and testing them in a day care center or setting them up in a room that you might have up there at Lincoln Plaza, it may, in fact, be tainting the situation. But there is the possibility here, for example, of wiring fifty homes and - we're talking just possibilities.

ED PALMER:

I would love to have a two-way cable television system plugged into the home, reading back to me, instant-to-instant, the number of people watching, every channel, and I would like to see that broken out by demographics. That's what I'd want.

PERCY TANNENBAUM:

Let's say it costs money to do this. Bringing in 12, 20, 120 kinds into a phoney laboratory situation, has nothing to do with the real life situation, but it's much, much cheaper. However, before you changed the situation, would you not first want to ask the question, "does it make a difference?" You're assuming. Everybody walks around with the assumption that if you take them out of the real life situation, you're changing everything. That, gentlemen, is a hypothesis and to start going into technology just on the assumption without checking that assumption is irresponsible.

WILLIAM G. DARNELL:

Again, history and methods are driving us. In other words, the reasons we have always had them in laboratories is that we couldn't control the environment, didn't have the technology. I'm not saying throw out

the laboratory, but are you ever going to be able to test the hypothesis of the laboratory versus the real life?

PERCY TANNENBAUM:

We'll test it. It doesn't make any difference, don't worry about it. If it does make a difference . . . . What I'm very upset about in any business, and education is full of it, including me, is we work on our assumptions without ever demanding proof from ourselves. We have righteous indignation when they are challenged because we mean well and that's enough to carry the day. And it isn't. And this is just a trivial example of that. But assumptions should be checked, I think, before we jump to conclusions. The natural situation as a place for testing doesn't have any great appeal to me intrinsically.

ED PALMER:

If I have a reason to know who's attending to what out there and I want to know whether a less expensive laboratory works, then I'm only dealing with an economic problem from a technical standpoint, not social goals, that sort of thing. It's a straightforward thing to test a laboratory situation, and to correlate those results with the results in some other context. I have all the data I need.

PERCY TANNENBAUM:

All I'm trying to say is that if "A" predicts "B" it doesn't prove the validity of "A".

WILLIAM G. DARNELL:

What about desired behaviors? We have spent some time on undesirable side-effects of programming. I think that we today can be summarized by saying that perhaps the source of the "best" we can provide is out of the body of sociology, psychology and the like and the first principles of human behavior and these are some things that you shouldn't do. But even this is kind of hairy, and from the point of view of putting the burden on television to prove what 70 years of psychology hasn't been able to prove (given that we can like those first principles), seems to say that this particular area of research has to continue on a special studies kind of basis. It is not the total responsibility of the media but maybe the media can help encourage this work. What about desired types of behavior. What about again talking to the "Electric Company" as our model? We've been searching for a base to hang on to. We could be talking to a program Meredith is doing or the like just as well, but what about desired behaviors? You want something beyond. . .

Dr. Ack, let's suppose there is something beyond reading ability that we're interested in. Are there certain

general characteristics of a person who is going to pursue reading or is the only way we are going to be able to deal with that now is to go out and see in fact whether or not they do it?

MARVIN ACK:

There are a lot of criteria for measures of effectiveness if society cares enough about whether or not these kids really read well enough to follow instructions and fill out application forms and things like that. I don't think it's appropriate to ask if their lives are going to be turned around and are they going to become fully culturated readers and incline their behavior models out of books such as Rebecca of Sunnybrook Farm and Jack London and so forth.

PERCY TANNENBAUM:

That wasn't asked. The question is "is the reading of anything increased?" So why do we have to create all these reading skills when we are a non-reading society. That's where the paradox is. It's Marshall McLuhan in reverse. He uses books to sell verbal media and "put down" the printed word.

WILLIAM G. DARNELL:

But we have more assumptions that we're making: One, reading is good, and two, we want people to read.

ED PALMER:

For utilitarian reasons.

WILLIAM G. DARNELL:

The reason that "Sesame Street" is into reading is that somehow or other society says that reading is a good thing and kids should read. Schools are in the reading business or should be in the reading business for the very same reason.

BERNARD FRIEDLANDER:

To answer a question, I am close enough to the reading field to believe that there are no real evaluative measures of the role reading plays in children's lives.

WILLIAM G. DARNELL:

Ignoring role, right now, I'm just talking about behavior; do they read or don't they read?

BERNARD FRIEDLANDER:

I'm not aware of any measures.

PERCY TANNENBAUM:

You see, we have a mythology in our culture, and if we go to another culture where illiteracy is the rule rather than literacy and we have more than 50 percent illiteracy, that is a real question that they should vest a great deal of their efforts to, by any kinds of means - - "Sesame Street" for improving illiteracy. We create situations that make the demand often, and then change the situation and change the demand accordingly.

BERNARD FRIEDLANDER:

Today, one can learn as much from watching T.V. news as your ordinary newspaper reader gets from buying the tabloids. One can be a good citizen in terms of participating in the democratic process these days without being a reader, and we originally made the mythology of reading American Democracy, The Honest Man and so forth, in order to participate in the government process.

PERCY TANNENBAUM:

Do you see in the not too distant future a television viewer comprehension test?

BERNARD FRIEDLANDER:

Magnificent idea. In my mind, some day soon they will be teaching children in the schools to be competent T.V. viewers. In fifteen years it's going to be a Ph.D. speciality in a mid-western state university and it's going to be like Driver Education Ph.D.'s -- you made your prediction and I have made mine.

JACK BOND:

I have had some close experience with West Virginia University where some fellows out of Africa were coming to make T.V. tapes to teach the farmers how to overhaul the carburetor of their tractor. These people were completely illiterate, but they were going to use television because they could show it on the spot, pack it around, and the like.

FRANK FURBUSH:

And it works?

PERCY TANNENBAUM:

It is often better than a manual, even for literates. I can never put together my carburetor from a manual.

FRANK FURBUSH:

You can't put it together from a T.V. script, either.

BERNARD FRIEDLANDER:

Anyway, to get back to the question, the whole business of reading is so penetrated with mythology and reality that it is no surprise to me that 50% of the readers are below the mean.

LILLIAN AMBROSINO:

I note that this is not in the discussion. However, if I were Mr. Gideon, Miss Stein and Mr. Francis, at this point I would be somewhat confused as to how to proceed. On the original premise of this seminar which was "How are we going to use some of these audience measures to create, hopefully, better programming?" . . .

WILLIAM G. DARNELL:

The track that we were taking before our exercise with the "Electric Company", was identifying measures, to make things better for what. We hadn't been able to isolate the kinds of things that we were talking to, but I think that we have now, and it even has expanded a little bit.

We have talked about selection; we've talked about things that relate to the selection mechanism; we've talked about the standings; we've talked about the distractor analysis, and modifications of it; we've talked about things that relate to interest, and interest which relates to selection; we've talked about content.

Another category we have discussed is a thing called "resultant behavior", both desired and undesired, and the feature of handling the side-effects. One thing that was immediately clobbered was this whole issue of the undesired side-effect behavior. Our problem here is that we haven't any methods, also, we are talking to the whole field of psychology and human development and the like when I'm not even sure that we have the first principles. We have touched upon desired behavior specifically. For instance, an advertiser has a desired behavior that he is looking for based on his ad. The reading program has specific desired behavior that it is looking for based on its objectives. I'm not sure what the desired behavior is for a lot of entertainment-type programming. We

might want to shift back and talk to this.

And then there is this whole funny category of emotion, and affect and the like, and the way in which it somehow relates back to behavior.

From the point of view of selection, we talked about various attention patterns and moment-to-moment measurement of that kind of analysis. Dr. Millard, Jack Bond and Joe Spaid, and Ed have each talked about this and how they want the overall moment-to-moment interest level up to a certain point. We also talked to these patterns and how they may relate to the returns to the programs. There may be ideal patterns as far as television is concerned. I don't think we know at this point, and this may be where we have to take summative measures in order to talk to what kinds of program structures are going to be watched and are going to be returned to.

We also moved into the whole area of relevancy and content; that is, in addition to pattern, you need to meet the viewer as far as the need that he has --Standards versus Reality --Resolution of knowledge needs, and so on. These things begin to get into measures of learning and comprehension. Ed was starting to talk about comprehension testing and filling in the video and filling in the sound. Is he in fact tuning into that task, etc.? Shall we go on with the testing to see whether or not he did?

PERCY TANNENBAUM:

The big effort now in most testing is to make the learning enough that the information acquired is useful in solving a problem, say. And then the test is, how well did they solve the problem? There is a lesson here in language research. We spent years and years seeing retention scores for different kinds of sentence structures, and you will find that what is retained is not just saying what's useful.

WILLIAM G. DARNELL:

That's an issue relevant not to your particular method, but to whether or not you chose the right objective to start with. Resultant behavior seems to be a situation in which again, not much has been done but we have techniques that we can use: split cable, videocon kinds of things to observe and watch and gather data. But in terms of methods for researching the results of the behavior phenomenon, they seem to be unique to what we're going after.

MARVIN ACK:

I would like to put in my particular bias here. I think we have had an uncomfortable concern in the United States for numbers. And if we don't have sufficiently large numbers, they just get discounted. What we are suggesting here is, if you study something on a test which has reading, you will get large numbers, and will be terribly impressive, and there may be a whole host of other things which go ignored. I would much prefer to see you put some money into a small sample of children and really study in-house the resultant behaviors. There is more opportunity..

HAROLD KATZ:

Why do you say, do it only in a small group?

MARVIN ACK:

I think that cost-wise it is just overwhelming to do it any other way.

HAROLD KATZ:

Here is where I think that technology can expand it.

WILLIAM G. DARNELL:

We are all in the position that as soon as you expand your numbers, even if technology allows you to do it, there's the trap of getting into the computer business, among other things. You become inundated with data, and suddenly you can no longer work with this data.

PERCY TANNENBAUM:

We just need a small sample. There are also redundancies a small sample is sufficient in some cases.

WILLIAM G. DARNELL:

So there's another reason for small sample beyond the cost.

BERNARD FRIEDLANDER:

I will try to amplify what Marvin said. If you do this in an "in house" job, then you don't have to rely on your experts so much.

HARRY FRANCIS:

We're tending to slide away from the specific goals that you are trying to achieve educationally and move back to the general topic of maximizing audiences and developing techniques to study universality of appeal. We might be able to average some kind of general goals which would satisfy your needs and then pull back into the methodology to come up with these goals.

EDWARD PALMER:

I would really like to see us get at the methodology thing. I think that there may be a timidity to simply addressing research methods on the basis that you must first have identified problems. I don't quite buy that. In fact, I very strongly don't buy that. I think that if I have a problem, and I go out using the broadcast medium as my instrument of addressing the problem, I want to have as full a kit bag as possible, as big a repertory as possible of existing methods, and then I'll decide what to use. I hope that I'll not blindly use the instrument simply because it exists. I might even modify it to fit my special use. But in the meantime, I would like to know as much as I can about what is available everywhere.

WILLIAM G. DARNELL:

Harry, you are linking the term "universality of appeal", with the word selection.

HARRY FRANCIS:

And attention and comprehension.

WILLIAM G. DARNELL:

This is the returning program phenomenon.

HARRY FRANCIS:

Yeah, and that's one area we want to have some means of measuring. The other area is behavioral response, so that we know cause and effect. And to me the problem is just as simple as that. I want to know how to maximize audiences and I want the cause and effect.

WILLIAM G. DARNELL:

Now what exactly does "maximizing audiences" mean?

RICHARD GIDEON:

Maybe I could explain that. Take a free station market where the average audience would be 33 percent. That would be successful for an average. It doesn't even have to be 33 percent of the audience. It could be 25 percent, but it cannot be 10 percent. From the point of view of the general manager and program manager, you appear unsuccessful if you produce a show that only reached 10 percent of the audience.

LILLIAN AMBROSINO:

There is really a missing link in the conversation. Perhaps it's irrelevant as a topic of discussion, but I am sitting here trying to put myself in the place of Miss Stein and some of Mr. Gideon's and Mr. Francis' people, and in the end, a producer and staff have to make the program. Is that not true? They have to make these programs in full belief that their criteria will be satisfied, that they satisfy the real need of the audience, and hopefully, in conjunction with the researcher. Now, the producer needs a certain kind of intuition, to make these programs. He needs time to develop them, and hopefully, he can develop them with the help of these researchers. But he cannot be told, it seems to me (and I am thinking of every really successful program in every sense of the word). "Gee, you've got to reach 20 percent of the audience first", because if he's told that either subtly or overtly or however, he can't produce the show, because the research people can't possibly bring a formula for the program.

RICHARD GIDEON:

We would never tell him what to reach. That's the whole point.

LILLIAN AMBROSINO:

But he doesn't know what to reach...

WILLIAM G. DARNELL:

No. But he does have a constraint. If his program doesn't reach 20 percent of the audience the first year, he doesn't have a second time around.

LILLIAN AMBROSINO:

And that's the problem that somehow we have to contend with. What you are asking for, in effect, is instant success.

RICHARD GIDEON:

But if there's no one watching the show... .

LILLIAN AMBROSINO:

Ten percent or 15 percent is not low. Let's go back to"Hot Dog". I understand from everyone that it was a good show. Do you agree?

RICHARD GIDEON:

Yes.

LILLIAN AMBROSINO:

Now we would not have known what happened to"Hot Dog"had it been on for the second year. The second year it could not only have been improved from the help of the researchers, but it might also have been able to build on the exposure of the first year.

RICHARD GIDEON:

I think you could count on one hand the number of programs that have ever developed after a couple of weeks.

BERNARD FRIEDLANDER:

I can tell you a story about Captain Kangaroo's first year, he almost went off the air. There was a parent group in Syracuse that gave him an award spontaneously. It came from nowhere. He gave lectures to this group, received an award, and they sent a letter to CBS. CBS gave him a second year.

LILLIAN AMBROSINO:

And there's another story if I may interject it. At that time Lou Collins, President of CBS, happened to have a feeling for little kids and he was willing to let him go on for the second year.

BERNARD FRIEDLANDER:

It was a personal element that went outside the big...

PERCY TANNENBAUM:

There's a third version of that, but, what's important is not the version. What's important is...

LILLIAN AMBROSINO:

The fact that they made an exception to the usual criterion.

ALLEN BENN:

How much of success is due to self-fulfilling prophecy -- the way it's placed on the air, the time period and the advertising that goes with it?

RICHARD GIDEON:

Very much. Many hundreds of shows have bombed in one area and then after being moved have done very well.

WILLIAM G. DARNELL:

Let's suppose that we were five weeks into a program, the ratings are coming in and you have also been able to gather other information from the viewing audience. You find that the program isn't working for particular reasons, and the opinion is that the reasons are, x,y, and z. Similarly, from the volume of data that you have, by whatever technique, you find that also in your formative studies there were patterns relating to the kinds of things that are now being said. Now you are in a "fix-it" mode, rather than a "one-shot" mode. Can broadcasting respond in a fix-it mode? If we offer methods, techniques, measures, and the like to commercial people, can they use them? Is there any way that you can change your program five weeks down? Maybe not to change it's substance but maybe to change its appeal.

HARRY FRANCIS AND EDWARD PALMER:

Yes.

HARRY FRANCIS:

We have show doctors who go out and do that sort of thing. Both the producers, and the guys that go out to clean up the mess, need tools. They need to know more about how people behave, how people respond. This is exactly why we're here.

BERNARD FRIEDLANDER:

(?) does a lot of this. He researches a station's profile, usually in the news area. The station is in second or third position with its news, and based on the findings, he may change the news commentator, he may change the pacing of the show, the stories--

EDWARD PALMER:

and changes the news -- This may be germane to both the general topic and to what Harry is doing right now in the production business; that is, the question of why "Hot Dog" didn't make it. As I understand it "Hot Dog" had a minimum of carry-over elements and a maximum of new stuff. It was all about how you get the striped line down the highway, for example, and the next time it might be looking at a pencil factory. But there was always somebody like Woody Allen who came on. He and somebody else were the only other sustaining elements I know of, and they were thinly represented in the show.

PERCY TANNENBAUM:

And that's why it didn't make it.

EDWARD PALMER:

I wonder if this business of how much you sustain, or the proportion of sustaining elements that are shown from day to day, has a good bit to do with this. Because one of the seeming paradoxes when you are looking at what appeals to various people is that continuity and repetition, and familiarity are so appealing. But newness, novelty and variety are also appealing, and a show has to be a certain kind of mix.

WILLIAM G. DARNELL:

Did anyone take a look at "Hot Dog" to find out what happened? You look at your programs that are successful and figure out why they were successful. Do you go on the other side and take a program that has really bombed and go to N detail as far as it is concerned to find out?

HARRY FRANCIS:

There is a great deal of soul-searching.

EDWARD PALMER:

But the people who do that never build another show. So it never cycles back into the system.

WILLIAM G. DARNELL:

At this point it is hard to say whether or not we even have the tools to begin working. But it may be that at this point the program analyzers or the distractor analysis could tell us some very interesting things about "Hot Dog", that Hot Dog comes on and creates high interest for about 2½ minutes, and then once they get to the pencil factory interest is gone and away goes the program. Until we know whether or not those kinds of patterns exist we will always just sit and speculate about "why didn't it go?" We talked about films the other day and the fact that you put a kid in front of a 54 minute film and unless it's extremely exciting you are not going to hold him at all. It may have been the format (and now we're talking format and the pattern treatment at this time rather than the overall average intensity level).

EDWARD PALMER:

I'll tell you what I think would have worked. If you had Woody Allen be every person which you saw in the factory, in their various uniforms, and have him be the guy putting the stripe down the road, and all the rest, then you would have had a winner.

HARRY FRANCIS:

I don't think so.

LILLIAN AMBROSINO:

Now this is a fascinating case of what I think your problems are, and there are two sides to it. If Ed Palmer could have done a detailed analysis for you, which would be enormously helpful to the producer, would you as manager have been willing to exercise enough confidence in the producer and the researcher's ability to attract that audience to give them more than the usual amount of time to attract them? Do you see what I mean?

HARRY FRANCIS:

Yes. Right. I alluded to this briefly yesterday. We have a somewhat different situation than Ed. We are in commercial broadcasting, and we are quite envious of the kind of financing that Ed's particular system has. Ours has to live and die on its commercial feasibility.

LILLIAN AMBROSINO:

Yes, but now maybe we had better talk about this, too, because there are various ways of doing things. There is nothing that says, for example, that Blair and Edith each has to have its own children's unit. There's no reason why you can't be cooperating in your production. Much of "Sesame Street's" cost is amortized by the fact that many of those sections are repeated. Certain programs for certain age groups can be repeated; certain segments of each program can be repeated. Your initial outlay, obviously, is going to be in setting up. You know that. There are ways of stretching the cost. Also in any business, one has loss leaders. One expects certain aspects of a business to make more profit than others.

HARRY FRANCIS:

Right. We have our share of loss leaders.

LILLIAN AMBROSINO:

There's no question, and we all know this. On the other hand, some of the loss leaders over the years are no longer loss leaders.

HARRY FRANCIS:

Absolutely right.

LILLIAN AMBROSINO:

All I'm trying to suggest to the seminar, which is a worthwhile endeavor -- as is anything that gets various people involved from various fields, is that we really must look at the problem in the whole context and that these researchers, no matter what their intentions, cannot give you, or public television for that matter, a prescription. It's a two-way street.

HARRY FRANCIS:

It is, it really is.

JACK BOND:

Some of the things that I think you are alluding to is that the attention profile and the like can be done and probably given back to you with no cost whatsoever to you. You pay now to make a phone call to a home and ask, "Are you watching a certain film?" and the like. You could do just as well by a mass mailing of the observation forms asking, "would you observe your youngster, if you have one five years old, watching our set on 10 second intervals?" We can do this with classroom teachers, and get graphs back that are comparable with the ones we professionals have worked on.

HARRY FRANCIS:

Would this be statistically valid?

JACK BOND:

But the kinds of measures and the kinds of looks you can give it are just as valid as going and picking up the phone and asking "How long did you watch 'Sesame Street' this morning", or "Did you watch it yesterday?"

EDWARD PALMER:

Without regard to this specific approach, as it correlates with the end point situation.

JACK BOND:

They're gross measures, but they are better than the gross measures of "I've got to have 10 percent of my audience." You at least realize that you are not getting 10 percent of your audience because the show always has a sloping graph. It's a boring show, and you click it off.

WILLIAM G. DARNELL:

But in that gross measure we are mailing to parents particularly as I am talking to sub-groups of the population, they may have a lot of problems with the data. The child may not be watched while he's there; the form is an imposition so they just quickly fill it out. Then we may have reading problems with the population which is interpreting the questions and the like.

JACK BOND:

I think you are throwing barriers up.

WILLIAM G. DARNELL:

I'm simply saying that those are the problems. There's the second way to go, and it is related to Dr. Ack's comments about the laboratory, and I have my one time cost of setting up my laboratory and my equipment; it now exists whether I use a program analyzer or a distractor; and I'm not going to argue one against the other at this point. And now my laboratory exists, I've got my program and why don't I pilot it? I will have gotten in advance of my program the things that I need, plus the fact that public opinion has been established regarding whether or not my program is working, where my interest level is, and what kinds of comments are made.

PERCY TANNENBAUM:

You think this is new?

WILLIAM G. DARNELL:

No. This is where my dilemma is. It seems as though the things are around but they are not always being used. What about NBC? Do they do this kind of thing

MARTY STEIN:

We've been doing pilot testing for years. I think the problem is that we have not been asking the right kinds of questions.

WILLIAM G. DARNELL:

What kind of pilot testing do you use?

MARTY STEIN:

We get a group of women or people from the street, show them the pilot, ask them what they think about it, do they have any objections for example, and get our answers.

PERCY TANNENBAUM:

Program analyzers are used, and remember, you are not selling your show for the public. It is the advertiser. The answer to your problem of audience size may be to make up a new advertiser who rewards you by sponsoring the show that has a smaller audience. Then you won't have to worry about....

MARTY STEIN:

I'm saying that I don't think its good, but I don't know quite how to get at it.

WILLIAM G. DARNELL:

That is, what to measure. You are indicating that it is not really just a question of methodology.

MARTY STEIN:

You know, it's not just measuring appeal. We don't know what's going on inside them. Something is funny, they laugh; but two months later they get bored with it. We don't know what makes them watch it. That's what I want to know.

HARRY FRANCIS:

This goes back to what I said yesterday. There are existing systems now that we can use to measure existing program forms, but heretofore, this has been pretty much trial and error. What I think we need to have come out of this is a way for psychologists to tell us what motivates people so we can develop a new program ....

PERCY TANNENBUAM:

They don't know, so please don't ask them. They'll give you answers. That's the trouble.

WILLIAM G. DARNELL:

They put it in the literature. You can pull it from there, too. It exists. What is known is around. Ed ran through what research he has been doing. What are the kinds of things that Meredith has been doing?

HARRY FRANCIS:

We've been working with only mass audience figures. We have not been working with anything, really, and this is typical of the broadcast industry; and I'm here really representing the industry more than just Meredith. Our concern is for the industry.

WILLIAM G. DARNELL:

NBC is down to a research group of three people at this particular point.

MARTY STEIN:

I'm not in the regular audience measurement field. I am in the more creative type of research. We have been trying to do some testing of children on their perception of commercials. The only study I have been able to find on them is the Scott Ward Study.

LILLIAN AMBROSINO:

It's the first one done.

MARTY STEIN:

Nothing has been done. But I'm trying to design a questionnaire, and it's very difficult for us.

LILLIAN AMBROSINO;

You're studying the perception of commercials and not the program.

WILLIAM G. DARNELL:

I think actually I'd let Blair worry about the commercials, and you focus on the program. If you keep your interest level high, he's going to give you your commercials.

ALLEN PIERCE: (Observer)

All of this is a function of the basic economic law of commercial broadcasting which is that ratings determine revenue. That's why the decisions on ratings. NBC has a far higher staff in audience measurement that in any other kind of research. The law is that the unit costs in broadcasting fall to break the audience. If you have one million people watching a show that costs a million dollars, then the unit cost is one dollar. If 2 million people watch then the unit cost is 50 cents, and so on and so forth. The larger the audience the less the unit cost, and the greater the revenue. So obviously, commercial broadcasters are only in the numbers game. They are not interested in a program that's directed toward the minority group because they can't break even on costs. It's the fundamental economic law of commercial broadcasting. I am an economist from the Federal Communications Commission and I can't see any way around this at the moment, unless, for example, if you want to program to children or to a certain group of children, you are given a tax incentive.

EDWARD PALMER:

But that's not a fundamental law of cable casting.

ALLEN PIERCE:

But I'm dealing with commercial braodcasting.

PERCY TANNENBAUM:

There's another paradox, you see. You recognize this and I recognize it. It's a business and let business concerns dominate. If there's any fall off that's good, fine. If fall off is bad, that's tough. But that's what the name of the game is. You go overseas. The BBC spends more of their total budget on numbers research than does either of the American networks and it has recently spent still more than any of the others with an overnight rating system, homed into a computer bank. It is the per unit cost measured differently. It's "I'll get more bounce for the buck if I have more viewers."

ALLEN PIERCE:

But BBC has payback in the sense that the bigger the audience, the more you can put pressure on the government to increase the license fee, and greater the revenue they get.

PERCY TANNENBAUM:

But it is also the bigger audience for a given show than another show with a smaller audience, the more that show will get to continue and the producers get involved and the actors get involved and it's the same competition.

WILLIAM G. DARNELL:

Exactly.

ALLEN PIERCE:

But the reason that "Hot Dog" was cancelled according to the people that I talked to at NBC was that it lost a million dollars in revenue. Everybody thought it was a good show; they won a Peabody Award, and the Vice President of Business Affairs at NBC told me, "We won a Peabody and it cost us one million dollars." They didn't think it was worth it. Whereas Louis Callin felt 15 years ago that it was worth it to get this little award from mid-western housewives in order

to continue with "Captain Kangaroo". "Captain Kangaroo" currently has a pocket contribution of over a million dollars. That show makes money. But it's now in its 17th season.

PERCY TANNENBAUM:

It makes money because it attracts advertising. That's where the profit is. Maybe we're not talking to the right people when we talk to broadcasters. Maybe we should be talking to advertisers. They have control of the business, not you people.

WILLIAM G. DARNELL:

We're talking to the philosophy of broadcasting, and even if you go after a small group, if you are going after 5 percent of the population, you will have the same programming problems as you have if you are going for 90 percent of the population. You still gotta know what turns that group on, whatholds their interest, and what keeps your target group coming back. If your target is 5 percent, you still have the same problems in programming.

HARRY FRANCIS:

You have to get their attention.

WILLIAM G. DARNELL:

To me these issues of selection appeal and interest cut beyond the philosophy of broadcasting. These same issues are faced by the Office of Education in terms of keeping the kids tuned into an educational offering within their institution.

I'm going to put in a time flag at this point. There are a couple of hands that have been up and I want to get those questions in.

LILLIAN AMBROSINO:

Dr. Darnell, this is a little bit of an aside, but I should think that this would be very important for the television industry. Most of us grew up in the age of radio, not television. So we had a different set of perceptions of media. What I would be very interested in, if I were in either public or commercial television, is what those people who grew up with television think of television. In other words, I am

almost certain in my own mind that the 20 year old has a different perception of television than the 40 year old. I would think that this could relate very much to your programs and the whole business of attraction and application.

PERCY TANNENBAUM:

Why?

LILLIAN AMBROSINO:

Simply because I think there's a tendency to regard something which you grew up with differently than something that you did not grow up with. I still suspect that television, even though we've seen hours and hours of it, it is still a bit of a novelty to us and still, I suspect, something special or whatever. I don't think our kids look at it that way.

HARRY FRANCIS:

And the young minds that have grown up with television have a whole different set of responses and conditioned responses than we who grew up using imagination and listening only to oral stimuli.

LILLIAN AMBROSINO:

I don't know if they have less imagination than we do. I think....

HARRY FRANCIS:

I didn't say that they had less imagination, I just said that they have a whole different set of conditioned responses.

LILLIAN AMBROSINO:

All I'm suggesting is that this is a legitimate subject for research. It should be of great interest to the broadcasters.

PERCY TANNENBAUM:

There has been some research on that, totally inconclusive findings in terms of any differences. How

much of a novelty will a thing be before it becomes no longer a novelty? And, even if it is a novelty, or he grew up with it and it is familiar to him, why do you think that it is going to influence behavior? There's a basis. You can start making reasons but it's stretching points. I think a utility function would explain it much more readily. What good is it to me?

BERNARD FRIEDLANDER:

I would like to agree with Miss Ambrosino from a child development point of view, that the organization of reality of a child who can see so much of the outside world and see illusions bounced around on the tube is very much different from the experience that we had in formulating ideas of space, time and reality.

WILLIAM G. DARNELL:

We are also creating fantasy for him rather than allowing him to develop his own fantasy.

BERNARD FRIEDLANDER:

I put it in terms of Piaget's cognitive evolution, that it's a different world of reality organization that the kids have had experience with. That's just an aside. I would predict, based on what you were saying, that the T.V. executive twenty years from now will have a different framework of values based on his childhood experiences than you gentlemen have based on your pre-television childhood experience.

HARRY FRANCIS:

No doubt about it.

BERNARD FRIEDLANDER:

But it will be lost in the other multicausal factors so you won't be able to pluck that out.

PERCY TANNENBAUM:

It will also be a difference quite apart from the presence of television, because generations differ anyway.

BERNARD FRIEDLANDER:

But we wanted to settle the socio-cultural changes that show up as a small element in a matrix, but it is nevertheless -- the range is first order inferences from hard data. You can't pin it down to hard data, but it's a first order inference.

SHELDON FISHER:

I would like to talk about what was said yesterday. My son and I occasionally build a model or something, and the T.V. set, of course, is on at all times. I find my son looking up from what he's building to watch the picture. One time I said "look, I'm listening to the same sound you are. I know the entire story, and I haven't looked at the screen once." He said, "I can't listen without looking at the picture." I'm wondering, are these kids coming to the point where everything has to be visualized and listening to audio alone cannot tell the story? Is this just my kid, or is it a problem? Do they have to see a picture to go with that sound?

JACK BOND:

We're finding that a number of the youngsters are responding to the media in what we call the visual mode. They cannot verbalize the experience they have had. Part of the material you have is an interview that we conduct after these youngsters have seen film, and there is an interesting relationship that has developed there. The youngsters can tell you something about what he saw. He can verbalize it and say "I saw a dog on there," and the likelihood of him asking to see that experience again or saying that he liked that experience at all is less if he cannot make any verbalization of the experience. Another thing is you may ask the child to judge, "How much have you learned?" He may say "I learned a lot." but then you ask him the companion question "What did you learn?" and he gives you no verbalization at all. And there is a paradox here as you watch the youngsters and you watch them watching a number of films. You realize that they are getting something from them. They can imitate it, even the behaviors in the hallway, for example, after the film on "How to Behave in School," and the like. However, they cannot verbalize that kind of thing. They do not reduce the experience to some kind of a verbal mode.

PERCY TANNENBAUM:

We are getting into some very fundamental theory here on which there has been some work recently. This work occasionally brings in film and television. There are theories for example, that say we translate every sensory modality experience into a universally shared dominant one -- man is a visual animal and we translate everything into visual imagery. A variation of that theory says that and we put everything in the form of the base structure sentence. There are some who say, "Well, yes. We can reach through this, but we vary as a result of early childhood experiences and conditioning." So you may be a visualizer and I may be a verbalizer even though we grew up in the same times, but it is a function of differential training. And then there are some who say we have the capacity to handle things differently.

There is evidence to support this, other things being equal and that's the point. Not knowing what we are going to use information coming in for, we'll take the law of least effort at the time and store it, or not store it at all. But you start structuring the situation for what you are going to use it for subsequently -- if they are going to have to recall it verbally, they will start translating it verbally, and then you will get your output if you structure at the time of reception what the functional eutopia is going to be later on. And the marvelous thing about man in this respect is that he has these multiple systems and doesn't have to be tied to any one of them. Again, performance and competence. A lot of people are tied to one of them, probably, as a result of chance early conditioning, maybe by the boob tube, or maybe by the teacher who drilled me for example, and I had to verbalize everything. We had to put it in some form of language. But we should not say, "have no reading," but rather, "utilize our fuller capacities." And television is only part of this picture.

Now, if television dominates, you are short-changing the population of the country, unintentionally -- if it does get to dominate any one person so that he can't handle information subsequently in a different mode. I don't think that has happened yet, but there's a chance of this happening if that's all we push in. Now a lot of this is speculative, I'm not giving facts.

JACK BOND:

One other kind of interesting finding of this interview was that we asked the question, "did you see the caption?" because the films we're using have visual captions on the bottom of each visual, and if the youngster says "yes, I've seen the caption," he can also verbalize something he saw from that film. If he says, "no, I didn't see the caption" which could imply that he's not attending to the verbalization of that visual experience, he cannot tell you what he saw in that film.

PERCY TANNENBAUM:

Yes, but there's even more telling evidence. See, you can get even individual nerve firings or a bunch of nerves, and then play this game. You show a picture of something. You say "I'm going to describe something and I want you to think of what it looks like" on that same something you showed a picture of, or you just use words. You get differential degrees of firing in the first two situations but not in the third. But the fact that they didn't verbalize doesn't mean that they can't. Why should they? What did you learn? I think I learned a lot in television. You ask me a question about what did I learn in television and I'll say "ahh, well, I learned a little bit about how professional football is played and . . ." I have trouble verbalizing because it's

a nebulous area you're asking about. I'd be just like one of your kids, not because I was raised in a different age.

COLIN MacANDREW:

Isn't a part of this process that we're talking about in fact, subconscious, and that in fact we don't know what we learn? A person may absorb the caption without "seeing" it and being able to recall it, and that this is in fact a subconscious . . .

PERCY TANNENBAUM:

Absorb it while not being able to recall it, not being able to verbalize it, but behaving in a different way because they were exposed to it? And that's why I keep coming back to behavior.

RICHARD GIDEON:

Our industry is continuously clobbered by statistics that show that people can't recall the commercials they've seen on Bonanza last night. But they saw them.

WILLIAM G. DARNELL:

They went out and bought a Chevrolet. This comes back to the point that Ed made earlier. As we talk to audience research and what information to gather, and how to put that information together, the guy who is eventually going to buy the research data, irrespective of where you are organizationally, is that producer out on the floor putting his program together. He's the ultimate user, and you can give him all the data and first principles in the world, and run him through patterns and distractor tests and the like, but until he accepts your information, you have a sales job in it, too.

PERCY TANNENBAUM:

Well, there's a point. You may ultimately come up with a formula, and then you don't need any producer, in effect. You do this, that, and the other thing and you have a show. I don't think that it is ever going to reach that point, and I don't think I want it to reach that point. We may be giving you the wrong information without knowing it, and I don't think we ought to package a show that way. I'd rather see a greater variety of producers producing a greater variety of interesting shows, just to have that variety.

We were talking the other night. I think the most I can expect from a commercial system and the most I should want to expect, is variety so I can exercise my freedom of choice.

I want to be able to choose. And my biggest complaint to you people - not you but the advertisers - is that they don't offer me enough because they have a very strange economic philosophy of fighting fire with fire.

WILLIAM G. DARNELL:

This cuts both ways. The only way you will be able to beat that as far as the programming is concerned is with a concept such as tax breaks, possibly, for particular kinds of programming.

PERCY TANNENBAUM:

Well, when Ford Foundation puts in 200 million dollars and is a tax free organization, we're indirectly getting it.

HARRY FRANCIS:

Do you know what we'd rather do though? Be able to carry our own weight. Without getting a subsidy from anybody.

PERCY TANNENBAUM:

One thing you can do is to cut down your profit margin a wee bit.

WILLIAM G. DARNELL:

Operationally, how would you do that? We're talking to the audiences which are relatively small and the target subjects that aren't necessarily going to pull the large audience.

HARRY FRANCIS:

I'm not talking about the mass bulk -- I'm talking about maximizing, as you alluded to earlier to the demographics, so that if we have a program that we want to appeal to the 18 to 34 year old female, we will know how to develop and build this show.

WILLIAM G. DARNELL:

I don't know the audience statistics, but 18 to 34 year old females is what percentage of the overall viewing audience? Say it's 7%. Suppose that the target audience is 7%, and let's suppose that if you designed the world's finest program you are going to get 60% of your target population. Can you pay the freight?

RICHARD GIDEON:

Yeah. Because if you hit your target group you'll also get 35 to 40 and maybe 50+ and some kids.

PERCY TANNENBAUM:

The critical thing is the share and not the target at all.

RICHARD GIDEON:

A four rating is nice at 9 o'clock in the morning, but it's disaster at seven. It's the share that counts.

PERCY TANNENBAUM:

Let's take the kids we're talking about, 6 to 11 is what we're supposed to focus on at 5 o'clock in the afternoon. or whatever hour they're available on a three station market. What for them (they don't buy much, but they can get their mothers to buy. I've heard all sorts of rationales for that kind of advertising), would be a good enough share? A third in a three station market?

RICHARD GIDEON:

Let's go into the children's demographic period. Yes, I'd be satisfied with a third or slightly less with the right kind of program, serving the public in an educational nature, which is very hard to do.

PERCY TANNENBAUM:

The two other stations have a similar kind of program.

RICHARD GIDEON:

Then I'll settle for a third or close to it.

PERCY TANNENBAUM:

But you wouldn't settle for 15 percent?

RICHARD GIDEON:

As a General Manager or Program Manager, I'd think it had failed. You're not talking about "Gilligan's Island"? It gets 80% of the kids. You're talking about three educational entertaining type programs.

PERCY TANNENBAUM:

"Gilligan's Island" too, I'm talking about any kind of show for that audience - just for that audience. Whatever would appeal to them you'd be satisfied with a third or slightly less, and if you got it with "Gilligan's Island"

or "Captain Kangaroo", you wouldn't care. But if it does make a difference, you would rather "Captain Kangaroo" because you think that is better for them.

BERNARD FRIEDLANDER:

There's one thing that we don't like to recognize as Americans, and that's class differences. Here we are, a bunch of upper middle class people, discovering our frustrations with the lower middle class attitudes and values. It makes us very uncomfortable and we feel, gee, they should be better, but them is us and us is them.

PERCY TANNENBAUM:

They should be better meaning they should be more like us.

BERNARD FRIEDLANDER:

More like us. We think that we have the message on what's good for them, and so forth. I can't stand "Gilligan's Island", but my kids will watch it if I let them, and so forth. Maybe if I'm lucky my kids will grow up like me and if I'm not lucky my kids will be them instead of us, and we have to recognize this. We have this class bias that we don't like to talk about. The people voted with their feet when they left Berlin, and the people vote with their fingers when they get mesmerized by that stuff. So there's a class difference. And there's an age difference, too.

LILLIAN AMBROSINO:

Yes, but they also watch "I Love Lucy" which is very good for its kind. So we must be very careful of . . .

JACK BOND:

If we go back to the idea of giving varieties, what would happen if all of you put your broadcasting eggs into one basket? Supposing all of you put your separate programs on and you shared the revenues at any given time based on the percentage of the audience you received?

HARRY FRANCIS:

Fine, but we're in the wrong country.

PERCY TANNENBAUM:

I gave him another formula.

SHELDON FISHER:

Could I back trace a little bit? Charlie Chaplin and "Sesame Street" cross the class lines, too. That's a compliment.

WILLIAM G. DARNELL:

Are we talking about the need for more methods or are we really talking about the need for some coordinated investigation or the beginning of an organized body of knowledge? It seems to me that there is a proliferation of methods that gather a kind of data, each of which gathers a different kind of data, each against some kind of purpose. I think that between the Distractor Analysis, Program Analyzer Playtest, or Tannenbaum's bicycle techniques, I can get certain kinds of moment-to-moment information which are ultimately going to tell me something about programming. The first thing that I'm going to do is have some charts, and then I'm going to have to begin to work with those charts. I'm going to have to figure out whether patterns mean something, and what do they mean, and how do they relate, and how do they tie to appeal? I'm going to have to take a look at various kinds of interest inventories and patterns against varying kinds of demographic groups before I'm going to be able to say anything about that. It seems to me that the tools are there. Our problem is not really one of tools. Our problem is one of use, and not only one of use, but one of organized use. No one -- Meredith Broadcasting cannot collect the full body of knowledge in the area provided. Children's Televison Workshop, with all of its resources, cannot do it either. What you are talking about is the need to organize the information and make what information is available, available. And begin to focus down.

PERCY TANNENBAUM:

People have done this, there are books written covering the variety of techniques and so on.

WILLIAM G. DARNELL:

That's what I'm saying. The techniques we know. What we're looking for is a body of knowledge -- we're looking for the science of programming.

PERCY TANNENBAUM:

There's another aspect, before I leave I really must say this. Even if I knew the answer of what really motivates people, why should I tell you? I mean that question. Why should I tell you and not real authority. Why should I contribute to your making more profit when you are going to utilize that for purposes that may be totally repugnant to me. Or, if I were going to tell you, I at least want you to give me something in return. Not

me personally, because I don't have motives, but that's where the industry is being terrible. You should contribute to the very research we have been talking about here in the last two days, in any way you can, for example, sponsor the research by giving unfettered money, just because it's a good thing to support, or education generally, because it's a good thing. But you guys sit there maximizing your profits and say, "come and tell me how to do it better." And I don't think that is right.

ED PALMER:

You know, Harry and I sat and talked about putting together this thing and that's one small contribution from Meredith. The other thing is, I really felt that we had an interesting balance going here. I'm sure that Harry and the people, to make money, wanted to know more about audience measurement, but I, for my purposes want to know more about what these guys are doing. So we each have our hand in the other pocket. I see no problem with the team thing we have going here.

HARRY FRANCIS:

If you haven't noticed already, there are some very strange bedfellows in the sponsorship of this funny little two-day conference.

PERCY TANNENBAUM:

That's usually what makes such strange bedfellows.

HARRY FRANCIS:

We felt that we had common goals that could be achieved -- the betterment of children's programming. And our purpose is quite altruistic. It really is.

PERCY TANNENBAUM:

You wanted to make money on it.

HARRY FRANCIS:

Well, we're talking about a different set of . . .

PERCY TANNENBAUM:

You will have to pay for your altruism, sir.

HARRY FRANCIS:

We are paying for it today by having you here.

PERCY TANNENBAUM:

You ought to pay a bit more by cutting down your profit margin and contributing that one percent. . .

HARRY FRANCIS:

The economy is taking care of that for us very nicely.

PERCY TANNENBAUM:

Taking care of it but not only for you selectively. But when the ecomony was booming, were you willing to do it? One lousy percent of the net profits to go into more work of the "Sesame Street" kind - I don't care where - just for more production, more research, or more anything.

HARRY FRANCIS:

May I address myself to your last comment momentarily. We are the only commercial broadcaster, and we did it with no publicity, that has contributed to "Sesame Street". Last season, not this season, but last season, before all the crying, all the breast beating and everything else.

PERCY TANNENBAUM:

I applaud that.

HARRY FRANCIS:

This is why we are here today. Part of the overlay on a commercial broadcaster is that we must have money in order to be able to serve our community. This is a fact of life which we recognize and are willing to live with.

WILLIAM G. DARNELL:

I'm going to interrupt and let Marty Stein in for just a minute.

MARTY STEIN:

I just want to talk about something that Dr. Tannenbaum said about the networks wanting the vast amount of information and that we should be paying for it. If you want to know, there is a joint committee on children and television with the three networks. It does exist.

WILLIAM G. DARNELL

It's twenty minutes to twelve, and lunch is going to be served at noon. We'll meet back at one o'clock.

FRIDAY AFTERNOON

WILLIAM C. DARNELL:

Our discussion so far has formed a solid base, I think, for a continuation of certain topics -- some of which got lost in the shuffle of our brain storming and soul searching. One of the areas we lost for a while and should probably pursue a bit is in the area of specific techniques. Beyond that, a second topic we might want to talk to which is appropriate to the seminar is "Okay, now what. Where do we go from here?" Do we go away and wait for six years? Do we get back together again and have a meeting on audience measurement as there was one ten years ago, I understand? Is there some direction or is the area still so poorly defined at this particular point that direction can't be established?

Dr. Scott Ward is responsible for the third item we think we should include on our agenda for this conference. He sent us a list of questions which he thought we must consider before real progress can be made in the field of audience measurement. They are kind of intriguing and I thought we might take a quick look at what he sent us (the list is in your notebooks) and see whether or not we could answer those questions. It might help us get a fix on whether or not we've been anywhere in the last two days. That's a lot to do in two and a half hours. We may not do it all.

HAROLD KATZ:

Bill, may I introduce a question which I think flowed out of the last of this morning's discussion. As to the broadcasters - - - let me rephrase it - I want to know why people watch the programs, why they like one specific program and not another, and the measurement of that, with the objective that if you had that criteria, you then could repeat that formula. Before you put a program together, you would take these criteria, construct the program, and meet that objective and see if the people will not watch that program. But I wonder if we are asking the right people? We are asking the audience if they like it. We really don't do this in the case, for example, of music and art. You don't ask the people who listen, why do you listen to the music? You let the composer compose the music and see if people respond. Those who are creatively successful have somehow found what it is that people do like. No one looks for a formula, for example, should I put on a piece of paper, painting or otherwise which people respond to? You let the artist create, and out of this you draw a number of successful artists, success being measured by the response of the people.

MARVIN ACK:

Except that paint is $1.40, and to put on a show . . .

HAROLD KATZ:

But who are the people then . . . ?

WILLIAM G. DARNELL:

Who are the people who dare to select Bernstein's Mass?

HAROLD KATZ:

My point is, though, who are the people who have the answer "Why do people like this program?" It may not be the audience, it may be the creator himself. The people we should be asking are the men who composed the "successful" music, the artist who is successful, or the poeple who create the successful T.V. program. They intuitively or otherwise, or through their experience have found what it is that makes people listen.

HARRY FRANCIS:

I cannot communicate this too well, but we are endeavoring to give these creative artists additional tools to put into the art form. By utilizing these tools and interpreting these tools, their knowledge would go beyond their own particular framework of experience and expertise and they could come up with a better and stronger product.

HAROLD KATZ:

But we cannot find out what the tools are by asking the audience. We should, perhaps, ask the creative people themselves. The measure was having the people watch the program. For example, take the stage when television was first created. You did not go out and ask the audience to identify the parameters of a good show. No one really knew. There was the creative process where the people learned what would transmit well over the television medium, and there are certain people who became successful. I think it is within that group that we have creative answers of what makes a good show.

HARRY FRANCIS:

We are looking for more depth than just what is a good show. We're looking at behavior responses; we're looking

at why, with a given cause, we have a given effect; we're looking at how we can control this cause to come up again. And we are looking at things like comprehension.

HAROLD KATZ:

What concerns me are the cases where a given program was successful and an attempt was made to repeat that program, using the same formula, and the next two programs, with that formula, fall flat.

JACK BOND:

You say you're looking for behavior modification. What kind of behavior do you want to modify? Do you want to modify my buying behavior? Ed, for example, identified goals and we talked to it. Could you be more specific?

HARRY FRANCIS:

For a specific show? No, I cannot list specific behaviors I think that we need to discover how people respond to various situations on television whether it be violence, sex, or whatever. We need to know as much as we possibly can about stimulating that viewer. We need to know how they respond, what they respond to, and the effects of a program or a particular section of that program.

MARVIN ACK:

Harry, we know about the sex stimulus and the aggression stimulus.

HARRY FRANCIS:

What about anger? Color animation?

MARVIN ACK:

Why do you want this? What is your reason?

HARRY FRANCIS:

Well, for one thing, we have a very powerful tool in our hands and we need to know not only how to pull the trigger, but what happens down on the other end when the shell hits the wall.

MARVIN ACK:

If you want to ask a more sophisticated question, you say, "Well, okay. This is a powerful medium; we want to combat racism in the United States. Now, what kind of program can I put on which has a positive effect upon diminishing the degree of prejudice that exists?" That specific question is researchable. But you are asking what is the reaction of people? What moves people -- those things

that appeal to the emotional period in which individuals are moved? But if you want -- we said this before -- this is germane to all people, this is common to all people. And the minute you get into the higher intellectual functions, then people differ greatly because their past experience, heredity, etc., all play a part. If you want to move large numbers of people, you do what Hitler did, or something like this. But that isn't what you want, of course. Then specifically, you have to ask about a particular show or a particular goal that you have. And this is where I would disagree with Ed. Sure, you can have a bag of tricks, but even when the bag of tricks is only half full, if you've got a researchable problem, it's not hard for these very intelligent people to fill that bag in for you.

ED PALMER:

I thought that's what I said.

MARVIN ACK:

No, you want to have a research tool beforehand and I would suggest, really; we'll go back to the same point I made earlier, that if you have a researchable problem, it is always a heck of a lot easier.

ED PALMER:

I couldn't agree more. But a lot of people have brought methods along, to a certain degree, by having problems. I just want to collect them all together so that when I come to my next problem which I am sure I'm going to do, I'll have it all there. I trust that, indeed, I won't -- this is exactly what I said this morning -- that I won't use that method rigidly, but that I will try to adapt and modify the various tools available to fit my new problem.

MARVIN ACK:

Our capacity for self deception is so enormous that there is a tremendous potential for finding a problem that you can solve with this bag of tricks. You start with the problem first . . . .

HAROLD KATZ:

But the way in which he uses that body of knowledge and the way that Blair and Meredith can use that same body of knowledge, are different.

WILLIAM G. DARNELL:

What about this overall knowledge? There is just a whole lot of stuff laying around at this point. We have described

technology in terms of potential. For example, I start thinking about the split-cable possibility to blow the mind as far as methods are concerned, and I could be busy for a very long time with just the tools that we have sitting here.

There has also been some information gain. Ed knows something about programming, putting a program together, information that you provide to your producers. Maybe it's not the information, maybe it's the way you're presenting it or the way you're interpreting it which is somehow affecting the program "Sesame Street" and now affecting the programming of the "Electric Company".

Okay, we have also heard other things. Dr. Friedlander, for example, talked about the nature of the signal, the characteristic of the voice, the sound. There is some knowledge, but we are not attempting to collect that together and organize it in any way. Maybe the problem we're having is that we don't know how to organize that against the very same set of questions Dr. Ack was posing. We don't know how to put it together, and we are still not sure of what we are after. We are far from being a science. We have a lot of bits and pieces going. One of the things that we really should be concerned with is organizing the state of the art.

ED PALMER:

Maybe a question is, "What studies could we do, what results could we find, that would be useful even before we have a problem?" And I'm not too worried about these dysfunctional ... I mean before any of us has a highly defined program to develop.

WILLIAM G. DARNELL:

You're talking basic research.

ED PALMER:

What about the question? I would like to see somebody do attitude definition. Once you can measure visual attention, or heart rate, or anything that's going up and down, how do you define what it is that is happening? Attention is an incredibly heterogeneous, complicated visual stimulus -- how do you define the properties responsible for this fluctuation of attention? That is an enormous area for research, and this relates to the whole thing about the identification of who those people are in the audience. That really ties into that.

WILLIAM G. DARNELL:

Now we are talking about a method of analysis, not a method of collecting data or . . .

ED PALMER:

Or maybe it's theory. I hear a clinical psychologist tell me it's the sex, it's violence, it's this, that, and the other thing, but I know perceptual psychology is going to tell me that it is heterogeneity, it's change of pace, it's novelty and so on. I want all these people telling me what it is so I can pick, again, in that kit bag.

BERNARD FRIEDLANDER:

One of the important steps you can take is try to make a hierarchy of your problem. We did some work recently on visual perception with the nominally blind who in fact aren't blind, and we worked out on the basis of concepts available, research literature and so forth, a hierarchy from light sensitivity right up to symbolic representation and modality integration. We've shown it to people who have been working in visual fields for a long time, and gotten their ideas and inputs, and we have a hierarchy now. It is not going to be the same hierarchy of visual processes and information in five years, because in five years it will be even more refined. But at least we do have a working hierarchy and we have eleven specific points we can research, and about six of them presently have instrumentation with which to proceed, and we have been able to isolate spots on the hierarchy that you can jump into and jump out of and still provide information that is relevant to other points on the hierarchy.

That represents one model for proceeding now. Every phenomenon does not lend itself to a single-axis, outline type of hierarchy. Then you have to go to lattices to find your multiple dimension hierarchy, which, I guess you could call a lattice. But a way to proceed is to formalize. Then you can end up with something you call a model of your problem. It can be done. The question is whether or not it is worth it to you to do that. If it is not justified, then you go ahead and do it and you can dimensionalize, hierarchicalize, and make lattices of what your issues are.

WILLIAM G. DARNELL:

And against each of those little cubby holes you stick the information and the techniques you have which relate together.

BERNARD FRIEDLANDER:

And you include intersecting points in the lattice, sometimes by inference, even if you don't know exactly what belongs there and you don't know what your technique will be for evaluating it. At least you can conceptualize the problem and proceed on the assumption that eventually a means for collecting information will be available.

WILLIAM G. DARNELL:

This was Ward's point and you bring it right out. If we are to advance beyond the present state of audience research, we must integrate past findings and derive some concepts which are somehow basic to the behavior of audiences, that is form a conceptual framework for research. Again, I guess the main question is, is it worth it? Do we want to take the time to do those kinds of things? If not, do we stop other things in the meantime? Or, can we make the investment -- which gets into the question of whether people will share their proprietary rights to information, such as your lattice.

BERNARD FRIEDLANDER:

The information will be distributed when you get into this overlapping. . . . Being able to do this represents in economics -- there is an economist in the room so I may be talking out of turn -- but this is what you take out of savings, isn't it? This is what you call accumulated resources that provide the basis for subsequent development. You have a surplus, and you have to draw on your surplus in these early stages that are non-productive. They require capital investment of resources. It comes out of savings and it comes out of surplus. But it is an indispensible step and you cannot expect it to be productive from the start.

B. ALLEN BENN:

What are you suggesting? A funding source . . .

BERNARD FRIEDLANDER:

I'm a professor. I don't have to worry about details like that. We'll settle for Tannenbaum's one percent (laughter). There is no manufacturing industry that would run without a research branch. I don't know what Union-Carbide, Mobil Oil, and so forth spend for product research. It's just a part of their budgetary procedure to set money aside for this which would otherwise go into distributed profits.

WILLIAM G. DARNELL:

You also have other sources. The subject is not unique to the commercial. For example, you have the Office of Education.

BERNARD FRIEDLANDER:

They've got an ethical question as to how much money they should put up for information which must of necessity be available also for commercial exploitation.

WILLIAM G. DARNELL:

Which of necessity they can't continue to operate without.

CLARENCE FOGELSTROM:

Well, it seems to me that this does not solve the problem until we know what we are going to do. If you don't develop the model and get some of these things out on the table, we will continue to proliferate the problem even more then we are doing at the present. That's why I feel Scott Ward's ideas are very important to audience analysis, and its theories, etc.

ED PALMER:

But how do you develop a theory of Audience Analysis? I hired a guy as a consultant and he just turned in a report based on distractor studies on the reading show. And I know that this is the very first thinking about what it is that captures and holds attention. It's not a single theory; these ideas come from a variety of theories. If you are really going to define the attributes of television, it's like defining the attributes of the world around you. You bring all the disciplines to bear in describing situations in the real world and you are going to have to bring about as many disciplines to bear in describing a response to television situations.

Here is an example of some of the attributes that my consultant got. When people are attempting to do something better and better and better, attention stays in there -- just people in the act of trying to better their own past record, or whatever. That doesn't come from a wide variety of segments, it comes from only the five half-hour test shows on the "Electric Company". If you look at sports and the popularity of sports, maybe that's related in some sense. I never thought about that until this instant. . .

BERNARD FRIEDLANDER:

Are these the characters on screen trying to do something better or are these the people in the audience trying to do something better?

ED PALMER:

That's right. And here is an attribute of a presented scene; a scene where people are trying to improve, that might be somehow especially appealing. Whose discipline does that relate to, if you are concerned with a theory of audience measurement?

WILLIAM G. DARNELL:

I think we are talking of "model" and the word "theory" got in.

ED PALMER:

Yes. If one child is correcting the other, if somebody is making mistakes and getting corrected, that seems to be appealing. If there is action that is germane to a plot line or a theme, that seems incidental, it isn't attention holding.

WILLIAM G. DARNELL:

Now you are talking about the pieces of information you have gained through trial and error, right?

ED PALMER:

Yes, for example, we have always thought that somebody just talking with children on the screen was less effective than somebody talking while the camera is pointing on the reference. What attributes are involved there? But how do you come up with a lot of information about attributes and properties?

WILLIAM G. DARNELL:

Once you've got the information, though, how do you exchange it? Let's suppose that you and the producer of a Meredith program want to draw upon the gathered body of knowledge of the form you are talking about. How does one know how to begin as a producer? How does he get to ask these questions? You interpret for him at this particular time?

ED PALMER:

If he had these as properties, attributes, definitions to work from, he would do his television show.

WILLIAM G. DARNELL:

Then you are going to structure your information somehow, right?

ED PALMER:

Well, I don't know. This would come out in research reports, and journals.

WILLIAM G. DARNELL:

He's not going to read all that research though?

ED PALMER:

Don't believe that he isn't! But, what are you asking? I'm not sure of the question.

WILLIAM G. DARNELL:

Well, I'm not sure what the challenge to the model is.

ED PALMER:

My challenge is in terms of what research we need now. What's next? Your question was, now that we have had the seminar, where do we go next? Do we drop it, or do we wait for somebody four years from now, and I'm saying that if somebody were to do research from various disciplines, both from clinical and from basic perception, or whatever from, just bright people looking and hunching, we might come up with some attributes and we might come up with some ways of testing the definitions, testing their scope, and making them intersubjectively useful. I think all of this information would be very useful. This focuses not on the method, but where you go with the method once you have it. And you can produce this kind of knowledge and I don't care who uses it. I don't care if somebody uses it to beat old ladies over the head, or if they use it to teach Sunday school. Some researcher needs to be producing this without regard to where it is going to be used. Oh, I do care about those things but in terms of whether we do or don't need that research, I don't care that much.

WILLIAM G. DARNELL:

There is still research against one of the objectives that we've talked to in this field, and you are talking to a field.

B. ALLEN BENN:

Are you appealing to people to just do research or related research in a number of areas?

ED PALMER:

If anybody here wants to participate: Friedlander, Ack, anybody.

B. ALLEN BENN:

What about that kind of research and in addition something that's more directive. That's getting back to a hierarchical model where somebody somewhere decides what that next step ought to be.

BERNARD FRIEDLANDER:

It starts off with the guy with the seat of his pants on a chair and a lot of blank paper in front of him.

MARVIN ACK:

I have a feeling, maybe I understand a bit more of what you are thinking. It sounds, in an over-simplified way, that you are looking for some absolutes. For example, that color will do this, and content will do that, and the amount of motion will do this. My guess would be that those things would

hold true only under certain conditions and that altering the conditions, the very thing which produced audience interest on one hand, would deter the audience on the other.

ED PALMER:

And we would build our theory gradually. We would cycle it into existence by finding where it's limited. There are some pretty strong theories like, if you introduce variety, or if you introduce a certain amount of variety which implies a certain amount of scene changes, in any given case you may have other attenuating kinds of variables -- and all this gets as complicated as the whole world. But there still are some powerful variables that cut through. It's like throwing a vector through space and seeing how much variance sticks to it as it goes through. It's a very multi-dimensional approach but you will know what you've got when you have done it. You then throw another vector through the space and you pick up a lot more variance and you still are left with some which you can never explain. I understand all complications, but it's still worth searching for those vectors. That's what I'm asking for. You say the vectors may be determined through some kind of pre-definition but maybe we should just be looking for clusters that seem to fall along a vector's face. So do we say, "Hey, that's a vector because all these things hang on," or do we look at a hierarchy and say, "We're going to shove one in here, and one in here" and the like, and see what sticks to it. I think that's the crucial thing that's being recorded.

WILLIAM G. DARNELL:

You're talking about two kinds of theory building, and we've had both kinds: those theories that have been built out of gathering information and factor analyzing it. I have a theory built out of "navel contemplation" and "first principles" where I go along attempting to put different pieces of information together into a whole. Each man is going to have his own approach. But the reason that all the varying points of view came together in the field of psychology (hence, the American Psychological Association) was because there was a commonality of interests and a willingness and desire to exchange information for one reason or another. Things began to factor together and somebody began to pull the information. Somebody called it a science, maybe that is the kind of thing we are searching for.

B. ALLEN BENN:

In other words, we are searching for a directed effort at this point, or are we suggesting that it should be random research with researchers going their own individual disciplined way? Or is it still something that may not be altogether disciplined but is in that direction. For example, should a research center be set up?

CLARENCE FOGELSTROM:

How much research is done in a random way through government contracts, or through private foundations?

ED PALMER:

I think it's simplistic to single out a discipline of audience measurement, or a theory of audience measurement. I'm not sure what the terms of that theory would be, whether they would be physiological, a description of problems and stuff on the screen or whether there would be some combination thereof, or whether it would be in terms of the methodology itself. I don't have any feel for what I'm dealing with in "audience measurement".

MARVIN ACK:

It seems to me that all physiological signs are a means towards an end; that is, they tell you that something is going on in the individual. But I am certain that you don't put on a show for a physiological reaction. You put it on for some behavioral reaction. Now, there may be a time when behavioral reactions become unmeasurable or too confused or something of this nature so you stop along the way and do some analysis of facial muscels and say well an emotion has been aroused by this, that and the other thing. That is not the ultimate answer. Obviously, you want to get some kind of behavioral answer.

MINGLED VOICES

WILLIAM G. DARNELL:

But one might argue that if you change the surface just that much. . .

MARVIN ACK:

It is a forced choice situation where the student or the subject was forced to behave in one of two fashions.

B. ALLEN BENN:

But there is an indication that physiological variables could lead to facial expressions . . .

BERNARD FRIEDLANDER:

It just occured to me that if we try to manipulate all the good variables; for example, I'm sitting here thinking about what you call the common denominators of television: sex and violence, and so forth, but what does Mazlow tell us about the hierarchy of need, which is really very acceptable in lots of domains: survival and security are the two primary stages.

Has anybody ever explored the psychological dynamics of providing surrogate security in television shows to children? Is it as potent as Mazlow would have us believe? That is, ego-pursuit, self esteem pursuit, is supposed to be absolutely the most powerful engine of personality theory. Pursuit and defense of self-esteem. Maybe we wandered with only some of the good variables even played with in terms of show building. If you could discover a way to get interesting thematic material based on nurturance, and pursuit and defense of self-esteem for kids, you might have some marvelous open universal rather than this dependency on violence and aggression.

ED PALMER:

Right, but you then have to be measuring self-esteem when you are looking at the audience. I also say that you had better have a way of describing systematically what it was that triggered the variance.

WILLIAM G. DARNELL:

My kids watch television depending on how far alienated they are from me at that particular point. So they end up with "Mr. Rogers". Does distractor analysis tell us anything?

ED PALMER:

It might not be too relevant because I think that "Mr. Rogers" might be achieving its goal if the kid is laying on his back and feeling good in his belly, and the television show is going on beside him.

WILLIAM G. DARNELL:

If he is dealing with the sound only, rather than the visual? Does this get any rating at all?

ED PALMER:

.65 on the distractor. That would be low relative to Sesame Street.

WILLIAM G. DARNELL:

Does that pull out as far as general ratings are concerned?

ED PALMER:

The "Mr. Rogers" show was not pulling any audience of any measurable size until the "Sesame Street" show came and the two shows came on together nation-wide, with the "Mr. Rogers" show coming on right after "Sesame Street".

BERNARD FRIEDLANDER:

Are they pulling an audience now?

ED PALMER:

Oh yes. It retains the "Sesame Street" audience quite well.

WILLIAM G. DARNELL:

So it is holding the same group?

MARVIN ACK:

Mr. Rogers" on its own obviously didn't pull an audience, but there must be something to it if it retains an audience.

ED PALMER:

Oh, yes.

MARVIN ACK:

But they didn't have a nickle for promotion, did they?

ED PALMER:

That's one of the crucial variables.

MARVIN ACK:

A crucial variable is the time-slot that it's in, what it precedes or what it follows?

ED PALMER:

Yes. If you have an hour and a half of very interesting programming on any one dial, you are going to get kids accustomed to coming to that dial a lot more than if you had only a half hour of interesting programming.

BERNARD FRIEDLANDER:

I think the NET people say that the greatest thing"Sesame Street" gave NET, a public broadcasting station, was exposure to large numbers of people which they never had until you folks came along and gave it to them.

ED PALMER:

They've never sought "popular" programming in the sense of appealing to large audiences.

BERNARD FRIEDLANDER:

And now people think in terms of sitting in front of channel 24, or whatever channel it is, which they never use to do. Maybe things have a long-term cumulative effect which can't be left out of this multi-causal hierarchy. This time factor, for example.

WILLIAM G. DARNELL:

We've talked about many things: comprehension testing, video, sound, etc. Ed, if we were to pick this out, what was the rationale behind how you used this?

ED PALMER:

With comprehension testing, we were after more than just attention. There we were after getting across information; structure.

WILLIAM G. DARNELL:

You don't tie it back to the distractor analysis in terms of making impact.

ED PALMER:

We do. The big point is, no matter what method you use, you tie them together. You do correlate them. You coordinate information from various methods. I think it would be fascinating to know what kinds of television presentations that carry heavy loads of instructional information are still high in appeal. How appealing is comprehending itself? Under what conditions can you set it up so that comprehending becomes an appealing thing?

WILLIAM G. DARNELL:

Marvin Ack opened this the very first day. As you talk to comprehension, we also talk to the issue of relevancy, to the "who is this kid". The one characteristic that keeps hanging with me is that he's a fantasizing creature just now beginning to "lock down" and become real. He's just facing reality. Again, maybe here there are some clues as to the kinds of things you can feed. . . .

MARVIN ACK:

I think comprehension is a very enticing, motivating factor which will relate to self-concept. That is, the more the person feels capable of doing, the greater control he feels he has of his world and the better he feels about himself. If you want to take a developmental view for just a moment, you get a three year old child who views the world from his egocentric position; that is, everything that goes on in the world is causally related in some way to him; or, the things that are contiguous are causally related -- if he's holding a glass and a door closes and the glass falls, he assumes that the door closing caused the glass to break. These kinds of things -- he bumps into a table, and for him, it's animated. He doesn't assume that he bumped into the table. That the table knocked him down. And of course mother goes around, "bad table, bad table."

So if you live in that kind of world where tables can knock you down and doors can break glasses, you can see the enormous relief from anxiety that just the accumulation of knowledge brings. Knowledge serves a lot of functions, one of which is to relieve anxiety; another function is the satisfaction of certain egos such as curiosity and a whole host of higher mental functions. But it also serves to avoid anxiety -- the anxiety of being controlled by others, etc.

As far as we're concerned, the major anxiety of 6 to 11 year olds is a loss of control. They have just now come to the point where they are capable of mastering the impulses they have experienced. For example, you very rarely find open manual masturbation in this stage. So understanding becomes a very crucial issue, I think.

WILLIAM G. DARNELL:

Why is it, then, that we're getting a situation where the programming technique, or style, can overpower a program that is directed at understanding? The Saturday morning cartoons, for example. How is that overpowering? Or is he accepting that and understanding?

MARVIN ACK:

No. I think there is still an enormous push and pull from emotions -- from the conflicts that are not completely resolved; from identification of figures. The number of these fantasy figures are sufficiently reduced, or sufficiently distorted and distant from reality, that he doesn't have to say "That's me". That's the conflict that I'm struggling with. This allows him certain resolutions of conflict. So if one can combine both of these things, then the kid will probably draw from one or the other.

BERNARD FRIEDLANDER:

Marv, you don't want to leave out that a subsequent stage of development does not necessarily drive out the personality and dynamic factors from a prior stage of development. They're coping with reality, but they're still very much driven by fantasy.

ED PALMER:

There must be some cases where you would think just from an ethical standpoint that it would be well to raise the issue -- create the anxiety and then put it to rest.

BERNARD FRIEDLANDER:

Well, "Mr. Rogers" does that in a way when he demonstrates that they can't fall down the drain.

ED PALMER:

Precisely the example I was going to use. The case where "Mr. Rogers" is telling the kids, "You're not going to go down the drain". Is he doing damage to kids by saying "You're not going to go down the drain"?

BERNARD FRIEDLANDER:

The ones that never thought about going down the drain get the idea. You see, he has taken at face value what I think goes back to Freud, Anna Freud or one of those people, and it's just like saying that all kids have an Oedipus complex and all kids have penis envy or castration anxiety. That in itself was an imputation of universality that probably is not true.

MARVIN ACK:

No, I don't think anybody accepts the universality of phenomenon.

BERNARD FRIEDLANDER:

Well, we did twenty years ago.

MARVIN ACK:

But I think it is almost universal to the western culture, at least with what we've studied. But even that is probably not so. At least it is not defensible, because we've never looked at the lower socio-economic child. We don't know what happens in that situation. In the population that we've studied, there appears to be some universality to this.

ED PALMER:

There are other things you can do, though, like setting up an electro-curiosity that's tantamount to an anxiety -- it's a motivating phenomenon according to most theories. The Piagetic anti-quilibriation theory, for example, and what others have done with initiating conflicts that kids resolve by. . . .

BERNARD FRIEDLANDER:

It gets hairy to deal with, though, because as these things operate in nature, they get imbedded in real-life circumstances which are uncomfortable and prickly to talk about, like parental conflicts, and parental separation. Sometimes parental separations are real and you can't -- you're taking a big monkey on your back if you're going to try to develop themes of reassurance for kids based on themes of parental separation and the real-life hazards that kids genuinely worry about. And whether or not one can deal with that successfully and be able to cope with the protest letters that it would be bound to generate, would be an interesting question.

ED PALMER:

however, if you stay away from these tricky social, emotional kinds of things and stay with intellectual conflicts. . . .

BERNARD FRIEDLANDER:

Then you're not getting on the main line of anxieties. By trying to get generality, you're giving up really psychodynamic importance and then you get into. . . .

MARVIN ACK:

But a 6 - 11 year old is capable of metaphoric thinking. With some ingenuity, one can present the image of parents or family splitting up, without necessarily presenting a picture of parents splitting up or family splitting up, and yet, the same message gets to the child that helps him deal with his problem.

ED PALMER:

In Scandinavia they deal with this regularly on their television programs and in this kind of way, above all else, they do very little in the cognitive area. They do a lot for children.

BERNARD FRIEDLANDER:

Well, this represents socio-cultural values. They have come to terms with sex in ways we haven't come to terms with sex, so it is logical that they would be able to come to terms with children's fears in ways that we would have difficulty with without getting into conflicting values. If you started doing anything to question the legitimacy of authority structures, you'd have some large minority percentage crawling all over you. If you raised any questions about our discipline-authority model being the best model for a parent-child relationship, why you'd have maggots coming out of the woodwork that would be pretty hard to cope with.

MARVIN ACK:

But the other point that Ed made is that one can present problems of an intellectual stimulation sufficient to produce. . .

BERNARD FRIEDLANDER:

I didn't mean to put the point down. It just leads to a lot of complications.

MARVIN ACK:

Again, of course, it depends on how. I've got a program at the University that's a general education program, and every student that comes into the university takes the same three courses. It's taught by the entire faculty, and I consult to the faculty on teaching style. The first course that students take is on Man's relationship to himself. Attendance is not mandatory, so once a professor said that he was having trouble with some of the groups not being there. Another professor said he was having trouble because some of the kids were silent. My recommendation was to take both of those real issues in the classroom and study them for different points of view. So you get some intellectual closure. It's a real experience. It's experiential in the sense that this class is disturbed by this behavior. By the same token, one is applying intellectual discipline to the solution of the problem.

WILLIAM G. DARNELL:

You've actually picked up closure principles with this distractor stuff, haven't you Ed? Didn't you actually work with creating closure and holding interest?

ED PALMER:

We've looked at closure, question-asking appeal elements and such, as properties of program content.

WILLIAM G. DARNELL:

And they turned out to have appeal?

ED PALMER:

Well, we don't have any definitive work on that.

COLIN MacANDREW:

I would like to say something at the moment. I have in the past produced and directed television programs for the age range that we're talking about and faced very directly the problem of setting up a studio and choosing a shot, and making the program. I didn't have available to me at the time such things as Distractor Analysis or Dr. Millard's analysis, and I found that the only evaluator I had was myself. This was a very difficult and painful thing, because as soon as I realized this, I also realized that I had to "become" the typical person that I was trying to produce this program for. This made a lot more sense to me in the last couple of years as a result of attaining the concept of structure building, as Piaget outlined it, because I realized in retrospect that this was what I was trying to get in my mind: the kind of structures that they were trying to build. If I could get that, then maybe I could very directly relate what I was doing to those structures. Just in hearing the kinds of things that Dr. Ack and Dr. Friedlander have been saying in terms of

being able to describe pieces of these structures, you could say "okay, fine. This kid at this point has to develop this kind of structure. He also has to develop that kind of structure. Then we can begin to provide some kind of context." Does that make any kind of sense to you, Ed?

ED PALMER:

Well, the only thing that bothers me a lot is that reliance on intuition.

COLIN MacANDREW:

I agree wholeheartedly. I agree that what's valuable would be this approach put together and correlated with the kinds of things you and Dr. Millard and other people have been doing in this area -- the correlation.

ED PALMER:

It's interesting that you said you "become" the kid you are producing for. I know that when we get a new writer for the show, we make it a point to give him a lot of field observation time. We sit him down, and make it a point when we're trying to train writers, to see that he watches a couple or three bits of material -- say a whole show -- back there in the shop, without a researcher or an educator around, so he has on purely his frame of producer. Then we let him go off, and it doesn't make any difference if the kids he sees it with do anything at all. He's there, and here's a four year old kid this high sitting beside him.

WILLIAM G. DARNELL:

But don't we all see four year olds differently?

COLIN MacANDREW:

You have to go through a process, and this kind of observation and relating to is a process I did in fact go through in order to try to "become" -- you never make it -- but it's a matter of a totally different mental set that you have to have.

HARRY FRANCIS:

This is a kind of grouping that I think most program producers and directors go through. I've gone through a similar experience myself, and this is one of the things that we've been very guilty of producing for ourselves and hoping that we can interpret what the audience will react to.

WILLIAM G. DARNELL:

I'm worried about taking away the experience of groping, though, and the whole synthesizing phenomenon that takes

place, by trying to replace that grouping with a series of principles.

ED PALMER:

It will never happen. But even to have in your repertory as a producer the thought of using field observation methods, you are going to look at your child in a different way than if you never concerned yourself with this. If you've never been through a session like this before, or had a propensity to attend to this sort of thing before, you've got to come out of this session a lot different producer than when you began, attending to the aspects of production problems.

HARRY FRANCIS:

Of course you will. But it's still too random. How do you provide your data for your producers? I know you walk in with a chart. But in terms of the translation from you and data to producer and program, what's the loop that you go through?

EDWARD PALMER:

Well, the producers go out and watch the kids watching, so they understand the method very well. In other words, we don't ask them to read about an abstract procedure. They know the data from what setting, from what context. That seems important to me. I'm not sure that it is.

We'll put the data into graphs and present it to the producers and they'll watch the graph as they watch the program. We do that very frequently. We'll watch the attention go up and down while watching the program, and they are going through the process they call "educating their belly buttons"-- I think it's a very important process. They really do begin to attend moment-to-moment.

Now, they'll come off with different ideas about why attention is up or down. And, in fact, if you have a different set of kids watching here than there, attention is liable to go up or down for a reason, and it might be a different reason for different sets of kids. But you can usually find a reason for attention going up or down. Our producers very quickly get grabbed up with the face validity of the method, so that when attention does something or the graph goes up when they expected it to go down, they don't question the method. Their tendency is to question their assumption that it should have gone up, etc. The method is compelling.

HARRY FRANCIS:

Do you ever send them out to watch kids at play, or watching things besides "Sesame Street"?

EDWARD PALMER:

Well, they watch kids watching television in addition to the watch groups. But, do they watch kids play? No, we haven't done that. That's not efficient time. It's very inefficient. We want to be as highly structured and focused as possible.

WILLIAM MILLARD:

But you're basic point is a good one: that research may be used by the creative person and it may focus the parts where the curve shows what he does not want to have happen and leave alone those parts which are working.

BERNARD FRIEDLANDER:

But it makes one assumption that everything can be done is already being done. If they're only watching kids watching television, then they are within the existing formuli.

EDWARD PALMER:

I deny that. I've been told before that you could never discover a form of television programming that doesn't exist by only looking at existing television programming, and that's just flat-out untrue. If you figure out that scenes of slugging a guy over the head works here, having sex works there, and you put them together you might come up with some imaginative kinds of programming. A scene from 42nd Street.

WILLIAM MILLARD:

Do you have your writers watch kids reacting to television episodes in which the action is highly nurtured?

EDWARD PALMER:

Well, yes. It happens many times on the program. But you see, you're saying, "Look, the reaction is highly nurturant", and what the producer may be seeing is highly something else, and he may be looking at exactly the same segment you are. This is why we need different people from different disciplines looking at the same data, telling us what it is in the program content that's making for high or low appeal. I'll see one thing, and you'll see one thing-- it's everybody's Rorschach Test.

WILLIAM G. DARNELL:

You're also suggesting that research activity can't be very remote from the producer.

EDWARD PALMER:

Well, this is the whole thing.

MARVIN ACK:

It seems to me that there still ought to be a theory that's possible to build. You've got two broad categories: content and structure. You've got the theme of the program and the context in which you present it. That can be broken down in a variety of ways. If you look at the great literature of the world, there are really only what, a half dozen themes? Okay. So you take Doestoevsky or Hamlet, and its paricide; you take another set of books, it's the same central theme. It becomes great because of the intellectual context in which it is put.

The camera deals with the same sort of thing. So one gets these themes. Now times change. You place the same theme in a different context because people have certain ego functions; kids today are not like the kids of fifteen years ago, and the same theme cannot be presented as it was. It seems to me that these are the kinds of things that can be built into a kind of model where one can study those things which are essential.

EDWARD PALMER:

One man already looked at our distractor data, and he broke up the program content into categories: animation, live action film, or whatever. He also arranges high and low segments. He said that animation is what makes it for a little kid.

MARVIN ACK:

But he's jumping to a conclusion. That is one of the factors. Now. Let's look at other factors and see which correlate.

EDWARD PALMER:

Ah, but another person looks and he doesn't even say it's a correlate. He says, "This is the primary factor coming out," that incongruous characterizations are what make it. Whether that happens in live action film, or in animation, or wherever, is irrelevant...

MARVIN ACK:

I bet soon you could get a cluster analysis, and you would find that maybe the live animation, plus the incongruous nature, plus a certain aspect of the theme, and soon you could get those together and look at them, and they could be predicted.

EDWARD PALMER:

And they'll be that combination for 42nd Street.

HARRY FRANCIS:

This is what we've been asking for, for two days. The technology to be able to predict.

WILLIAM MILLARD:

But creative people aren't like that. A creative person has to spin it out and then test it, then correct it, then polish it.

EDWARD PALMER:

But if a producer asks, "What can I produce?" Some researcher will go to him and say, "Produce animation."

WILLIAM MILLARD:

A researcher cannot tell him what to produce. A researcher can only say, "This is what happens when you produce animation."

EDWARD PALMER:

As a researcher, I can say, "Okay. You commission me. You want my opinion of what you should spend your money on if you want to get an audience." I might say, "Spend it on animation." Another researcher who has analyzed the same data from which I deduced my point of view is saying, "Produce incongruous characters. It doesn't make any difference whether it's on animation or whatever." Another one is going to come in and say, "It wasn't that those were incongruous characters, it was that every one of them was saying something vicious."

WILLIAM MILLARD:

If these factors are all that apparent to each individual, it seems that somebody would come along and treat them systematically.

EDWARD PALMER:

That's really what we're asking for and looking for. What are the ones that are basic, and what are the ones that are derived, and how can you hand to a producer the most useful predictive set of properties that he should try to incorporate into a show if he wants to appeal?

WILLIAM MILLARD:

But from a real-life point of view, you have to start from where you are. You have certain fellows who can write and do certain things well, and I feel we do, too. So they do the best they can. Then you bring in research. You polish what they've done. Creativity is original by definition. All research can do is tell you as a writer or producer whether you've achieved to the extent you wanted, and according to what you were trying to do. And this is in the pre-testing research stage.

WILLIAM G. DARNELL:

If I could collect together in one pile all of those things which were holding high interest and put in another pile those things which weren't, and then do my cluster analysis or my mental factor analysis or whatever, then I'm now breaking down through them and beginning to digest them. So maybe from the point of view of getting going in research you're saying, 'All right. I've got some techniques at this particular point. Maybe I ought to start running them against a whole lot of things and do some analysis".

EDWARD PALMER:

You know, I just had a guy do a paper here, he found some properties, some attributes, of television programs that correlate with whether something is high or low in appeal. It occurred to me that I would like to have someone else look at his same clusters of high and low, which is what he did start from, and tell me what he thinks those attributes are, because different people are going to tell me different things.

MARVIN ACK:

Now, if you get a list of attributes that a group of researchers all say have a significant effect, okay. You've developed a cluster. After this, it is not hard to use any one of them as an independent variable -- to alter this or that, to see it's effect. One need not do that in actual programming ...

EDWARD PALMER:

I'd like to see that research happen. So what could follow from this meeting? I'd like to see research on attribute definition. Let's nail it down and find what really is basic and what is derived or consequent upon that.

BERNARD FRIEDLANDER:

It occurs to me to comment on how things tend to stay in their pre-existing categories. Isn't the family-situation comedy the most popular theme for family shows in the prime time? Okay. We've had it demonstrated a thousand times that family-situation comedies are the best way to hook an audience; and yet, what use is made of the family setting for instructional television? Absolutely none. Is there any family situation where we make use of what we already know is popular?

RICHARD GIDEON:

Beautiful point.

BERNARD FRIEDLANDER:

One of the great themes of psychological importance in the childhood is the search for the identity of the parents. Absolutely. You can find that in literature, you can find that in behavior, you find it in psychoanalysis. You can find it everywhere. And yet, we put family-situation comedies in one category; and we're talking about animation; and we're talking about incongruous characters; and we are never thinking about the search for the family unit in the instructional situation. That's what I meant when I said we tend to keep these categories separated in closed systems. These systems have to be opened up.

ED PALMER:

There is another thing I would like to see come out of this conference. If there are some methods that a lot of people can find useful, I'd like to see some hardware sophistication. I'm thinking of the movement toward the development of efficient and effective ways of processing the data. The Stanton-Lazarsfeld Audience Analyzer that I saw in New York City was very sophisticated as a technological device. I think you have to be rather awed by it.

WILLIAM G. DARNNEL:

Frank, are there any questions you'd like to throw out? You've been sitting quietly.

FRANK FURBISH:

Well, I can bring one little breath of air from outside the room. I've spent a lot of time and effort on magazine research for editors who have gone through exactly the same problem. We finally came to the conclusion that pre-testing is a lot more important than post-testing, and that a researcher is never going to replace the creative guys in this business. We've always given our editors the freedom to ignore or disregard research findings and trust his own judgment and own creativity in coming up with a new idea.

MARVIN ACK:

My question would be, of those creative people who you gave that right to, how often did they ignore those researchers?

FRANK FURBISH:

Not infrequently, because a magazine is a different instrument than Harry's problem.

WILLIAM G. DARNELL:

Whereas they take the information and go a step beyond.

FRANK FURBISH:

They would go on small audience ideas. In other words, we didn't have to get significant numbers for a specific program. We can get an average issue that's fairly high, but this same guy is going to get the same magazine for 24 or 36 months. He will take the unusual and the remote and still get satisfaction out of what he's receiving. But I think that there is something to learn from both businesses. Everything does not have to maximize audiences all of the time.

WILLIAM G. DARNELL:

Then maybe we're not looking for a 95 percent score on the distractor analysis for a full 28 minutes of programming. This is what we were talking about yesterday; that is, taking your hour and breaking it down into component parts.

As you move into the adult hour, I've noticed two or three programs on the air. There's one called "Night Gallery" which has little two-minute clips, and a 10-minute clip, and a five-minute clip, and it's got a 20-minute main story--all within an hour. There's another one called "Love, American Style" or something like that. Again, it has a series of small stories in it. What's happening, it seems, is that we are getting some changes in programming concepts that fall more along the lines of what we are talking about with magazines.

WILLIAM MILLARD:

A lot of testing has been done on the magazine-type program, such as the shows that are on late at night and the "Today" show. Here, if the quality of the acts presented sequentially are not up to a certain level of audience appeal, you lose your audience. It isn't as though you can turn a page. You're stuck for five minutes, or three, or four minutes.

WILLIAM G. DARNELL:

At which point you've changed stations and picked up something else.

WILLIAM MILLARD:

That in itself brings up another interesting possibility for future use of research and underlies the difference between the media of print and regular television -- particularly where live programming is done. It is possible right now with present technology to present to the director of the show an indication of audience response on a continuing basis. He then can decide, when he sees his curve dropping, dropping, dropping or climbing, climbing, climbing if he wants to change his emphasis, or bring in another guest, or throw in another commercial, or what. One of the problems with some very good programming is that it builds and builds and builds and then is allowed to stay on too long. It overstays its welcome and audience reaction then starts down; whereas, if the thing were clipped when it had reached its peak, just as it was starting over the hill. Now this only works for certain kinds of programming -- quiz shows, interview shows, for example. Live shows, which are taped very often could have spontaneity because the frequency of the change would be tied in to the reactions of the people in the test audience.

HARRY FRANCIS:

That's an interesting editing concept.

B. ALLEN BENN:

Edit against a pattern.

JACK BOND:

Let's say you were using your responder analysis on a live audience for the "Johnny Carson Show," and you were building a curve in the process, could you use this to "censor" parts of the show before it was actually aired? Has this type of thing been done?

WILLIAM MILLARD:

I tried to persuade Tom Kaufman to persuade the "Tonight Show" people to run an extra 15 minutes, and then drop out the low points.

RICHARD GIDEON:

The only problem is that you have interaction of the people sitting there, and how do you cut that out? You can't go back to where you had one person sitting in the chair.

HARRY FRANCIS:

They're doing this with the _____ show out of Chicago, where the thing runs vertically all night and they edit the best 90 minutes. The trouble is that is looks great on paper, while they wind up with a very disjointed show that is hard to follow.

WILLIAM MILLARD:

This is the editor's problem obviously. But suppose you had a show that did this (demonstrates), and you saw it happening or you taped it complete, you could edit that part out, if you were smart. If this goes riding high here, you could strike these.

B. ALLEN BENN:

There's an interesting question about whether that curve could fill in the gap, by the way, if something was edited out. It is not clear that it has some sort of additive feature. I'm talking about the responder measurement itself. You can run the responder or your measuring device against an unedited version, then you can edit down. If you were to run it again, I wonder if the resulting final pattern would be the former pattern with the low points taken away?

JACK BOND:

Where you drop out the low portions, do the attention patterns tend to sustain across that gap?

WILLIAM G. DARNELL:

Is it equal to the former patterns minus those places that you edited out?

WILLIAM MILLARD:

The average is higher because instead of having to build from a low point up, you build from a reasonably high point up.

ED PALMER:

We've shortened long piece, and improved our appeal. We have taken three minute films and animations and the like and cut them down.

B. ALLEN BENN:

I'm talking about the pattern itself. It would remain there if you were to take some of the three minutes out. It's not just gluing patterns back together . . .

BARRY BRATTON (Observer):

Excuse me, but if you knock out the valleys, your assumption now is that you want constant appeal. What about the idea of keeping that low point there just for the very fact that is emphasizes the following. It has a dramatic effect.

HARRY FRANCIS:

I think that's what he's saying. In building your dramatic curve, you come up to a peak and you hit a valley. The whole theory of building a dramatic curve is that each subsequent peak is higher.

WILLIAM G. DARNELL:

But on the other hand, you may not want the valley to go too low or too long or you might lose your audience.

ED PALMER:

When we go from testing four-year olds to testing eight-year olds, we see that fluctuations are much more marked and frequent -- that the older kids are much more selective compared to the younger ones. You look at the curve of one of the younger ones and it's a soft curve with gradual changes. With the older kids, it's quite abrupt and they swing further when they do change. But our swings are usually for five or seven second intervals. More than a minute of a low spot is very unusual.

WILLIAM MILLARD:

In terms of sampling, someone asked about the possible use of the studio audience. This is not a good audience. Normally, research is conducted with the notion of improving a program sufficiently to win the marginal people who might or might not like it. And those aren't the people who ask for tickets and stand in line to go to the show.

JACK BOND:

A change in the procedure so that your invited individuals might change it?

WILLIAM MILLARD:

Conceivably.

B. ALLEN BENN:

What does it cost to get a show out on the street?

HARRY FRANCIS:

A network show? "Bonanza" is running around $230,000 an episode.

B. ALLEN BENN:

What about your average, weekly, half-hour show?

HARRY FRANCIS:

We've mentioned "All in the Family" -- it's running at $95,000 per episode.

WILLIAM G. DARNELL:

That's $95,000 each week? What would it cost to . . . Wow!

MARVIN ACK:

Maybe we should have started with that.

WILLIAM G. DARNELL:

Where are the bulk of the costs? Are they in hiring the actors?

HARRY FRANCIS:

A lot of it is still up above the line in the hiring of the talent. If it is something like "Bonanza," where you're doing an hour show on location every week, then you've got some pretty high costs below the line, too.

WILLIAM G. DARNELL:

Let's suppose you're dealing with a series other than a quiz show or a magazine-type show: let's suppose we're doing "Mission Impossible," for example.

RICHARD GIDEON:

It's one of the high-cost programs.

WILLIAM G. DARNELL:

In the process of producing such a program with these costs and tight programming schedules, it doesn't seem that you can stop a program just to fix a section. So, overshoot and maybe collapse back, right?

ALLEN PIERCE:

That's what I was saying this morning just before lunch, that in fact, I regard television as a mass production industry because it has to crank out 18 hours of programming a day. I did some research into Flip Wilson last year, his show's best season. It cost $150,000 per show. Initially, advertisers wouldn't buy into it at $35,000 a minute. This year the show cost has probably risen from $150,000, but it's getting from $68,000 per minute. That's making a lot of money.

The "Johnny Carson Show" costs about the same per week as the "Today Show," and that's running just over $100,000 per week.

WILLIAM G. DARNELL:

So if one could in fact demonstrate that they were in a position to improve a program's audience appeal, then the costs could actually be put in the marginal class if you were talking those kinds of shifts in terms of advertising dollars.

ALLEN PIERCE:

Even in the case of Flip Wilson, it was an unproved commodity. Some stations wouldn't clear it, including the major stations like WFBM in Indianapolis. I think I'm right in saying that they initially wanted $50,000 per minute for six network minutes. They came down to $35,000 per minute for six network minutes.

HARRY FRANCIS:

Just to get it moving.

ALLEN PIERCE:

By the 13th week of the show, because it was attracting the high ratings, the cost was over $60,000 per minute. In this season, it's much higher than that.

RICHARD GIDEON:

It is very costly to try to save a show. My experience was one in that area when I was with an agency -- you might remember the show, "Empire" that was sponsored by Chrysler. It was similar to "Bonanza" or "Big Valley." They found that the two women -- Terry More, and I forget the other one, has a negative effect on the show; so, by the second season, it was a marginal failure. They took the two women out of it to try to save it, but it didn't work and the show went off the air. So they do make changes in the format or the characters of a show.

HARRY FRANCIS:

There's a lot of testing of pilots as you mentioned earlier. Pre-season. "Sandy Duncan" is a good example of that. After testing the first show, they finally got it twisted around into what they thought was good form.

MARTY STEIN (NBC Observer):

Correct me if I'm wrong. I know a lot of people in production and it seems there is one cost element that hasn't been mentioned. This is, a lot of times, the network will just see a script submitted by a production company and, based on that script, they buy the rights and pay for it to be produced into a pilot. They don't even know if it's going to be right, really, except for what they have seen in that script. Then a pilot is produced and it's tested, but they have already spent "X" number of dollars.

WILLIAM G. DARNELL:

But they know the producers.

MARTY STEIN:

But they are going on chance a lot of the time.

WILLIAM G. DARNELL:

What's involved in testing a pilot that is different from the kinds of information that we're looking for? What do pilot tests involve?

HARRY FRANCIS:

They use the standard program analyzer, and they come up with a demographic breakdown of the show's appeal.

WILLIAM G. DARNELL:

But then do they take that information and look at it all relative to the content and do they then try to predict? Perhaps what we've been suggesting is being done now, to a certain extent, but is in need of being harnessed.

HARRY FRANCIS:

I just have a "gut" feeling that we can utilize, but go beyond the kinds of systems that are available now, and are filling the current need of evaluating production after it has already been accomplished. The kind of research I would like to see the industry get into would be the kind of research that can anticipate and build better programs.

MARVIN ACK:

Do what better? That's too vague -- "better" in what way?

HARRY FRANCIS:

Attract more people, attract larger audiences, motivate people in a more controlled direction.

MARVIN ACK:

Motivating people toward . . .

WILLIAM G. DARNELL:

. . . toward returning to the program.

MARVIN ACK:

With that you've got one problem, and if you can be more specific; you've got a different set of propositions and a different problem. If the industry's only concern is to have its audience there is one set of theories, one set of propositions, one set of things that you can do, etc., that are time-tested. Your're doing it. You can find out how to present something a little bit better; but, if you say something beyond that--for example, that you want to motivate people--then I must ask you, "motivate them to what?"

HARRY FRANCIS:

It depends upon the subject of the program. If you are doing a program on the arts, you might want to motivate your audience not only to come back to the show, but to develop their artistic drama groups or to do some outside reading on drama.

WILLIAM G. DARNELL:

That's going to the specific subject area.

HARRY FRANCIS:

Let me give you more examples on motivation, and we've been talking basically about entertainment in the arts. One of the very important things that broadcasting stations do today is develop current affairs and documentaries. I've grown up in documentary production and have gone out with the camera and seen something, and all of a sudden it turns into a documentary like we were talking about the other day. But, a documentary produced and aired on a local television station or on a network is of absolutely no value unless it motivates its audience to some kind of action. And I don't care what the subject of the documentary is. Whether it's racism, or poverty, or a hole in the street, you've got to motivate them to some sort of action.

JACK BOND:

What kind of action would you want to motivate them to in a documentary on poverty, for example?

HARRY FRANCIS:

It depends upon your point of view. Let's take the hole in the street. You might want to motivate them to drive around the hole in the street and ignore it. You might want to motivate them to go to their town council to get the hole filled.

CLARENCE FOGELSTROM:

Didn't Westinghouse do this for a series a few years ago where people could send their reactions to a series of questions into the local newspaper?

FRANK FURBISH:

I think what they did was produce a network show and have the local station come in for the next 15 minutes with local people.

HARRY FRANCIS:

Their first one was, "One Nation Indivisible."

CLARENCE FOGELSTROM:

But what Ed is doing, or what has been done on "Sesame Street," for example, has not necessarily been on the program itself. That is, there are materials available through the program that reinforce what happens on the program. Has anyone ever done that in commercial television to reinforce any of the material that's presented--say, in the documentaries?

ED PALMER:

Print or any other kind of handouts, multi-medial kinds of things, have never been done in the broadcast context. I know a group, now aborted, that was in the business of designing an ecology series for public television, and the plan was indeed to have a multi-media approach with specific kinds of pamphlets and forms that you could use to write your congressman, suggestions for who you could phone if you wanted to know something (complete with number and city), all of them were suggestions for very specific actions that people could take that were designed, again, to lead to other kinds of commitments and actions.

HARRY FRANCIS:

CBS just did a drug documentary call, "If You Turn On," and they wound up with a motivation to get local action. It was very well done. That's what I mean by motivating.

WILLIAM G. DARNELL:

What did they do to motivate?

HARRY FRANCIS:

Don't ask me? That's what I'm coming to learn.

ED PALMER:

The Corporation for Public Broadcasting is presently doing a feasibility study for a program designed to help people who want credentials like a high school diploma or a passing score on the Civil Service exam to have the reading skill, the test-taking skill, or whatever. I'm not sure exactly what skills they will identify. They are in a very early stage, but they want to motivate these individuals to act on their own behalf, to take advantage of locally available training programs, and to learn from the television program itself to get off their "duff" and get a better credential that will help them get a better job. At a minimum, they want these people to examine their own situation and see if they want to change it, or stay in the chair drinking beer, or whatever it is that they do as an alternative. But all of this revolves around "motivation."

WILLIAM MILLARD:

The commercial researcher studies comprehension, the message, and each element within the 30 seconds or so that is related to this--putting the point across and winning attention. They are doing a double job.

ED PALMER:

Do you know anywhere where there are descriptions of the methods? Does anyone here know where I can get material--either a description of the methods for doing that kind of study or the results?

HARRY FRANCIS:

I do, but I don't know whether you can get it.

B. ALLEN BENN:

That's the problem. A lot is proprietory. Hire a consultant, Arthur D. Little, for example. But they won't give you their method. They will give you the results, though.

MARTY STEIN:

I have done a search for literature on children's commercials, which I mentioned before, and the only thing I found was the Scott Ward, which is just used . . .

WILLIAM G. DARNELL:

(voices mingled) I've got a great place to start. Seventeen tons of program analyzer data which may not be as good or as bad as others, but it exists, moment-by-moment, and program-by-program, on programs that have been pre-tested, posited and maybe put on the air. They have been put on the air and we now have summative kinds of Nielson ratings, we know what parts the populations . . . I'm saying "we" collectively, the world.

ED PALMER:

We don't have access . . .

WILLIAM G. DARNELL:

But we are also talking of cooperative exchange and the like. This is the first example of not being able to share information.

MARTY STEIN:

NBC has data. I mean, if you really want to learn, I think you should have a congressman include the program testing people per se.

WILLIAM G. DARNELL:

Are you going to make your information available, Ed?

ED PALMER:

When it's available.

WILLIAM MILLARD:

What about information from government sources?

WILLIAM G. DARNELL:

Do you get this kind of information at USIA?

WILLIAM MILLARD:

Yes, and also NIH, ARDVA . . .

WILLIAM G. DARNELL:

There's stuff out there, so what we need to do is bore in and get hold of some of this.

ED PALMER:

It isn't going to happen. Let me tell you what my strategy would be if I had to organize a universe, given the way things run in realities. I can't get exercised over the fact that some people have information that's proprietory. They spent their money on it, but that doesn't bother me. I personally have an "open information" point of view, and I find the situation distressing. I can't understand them, but in this country that's the way you can be if you elect to be that way. But, rather than letting this become the topic of conversation and grinding over it and exercised over it, a very constructive response we could give would be to develop the best methods of audience measurement, the best methods of motivation, of comprehension measure and all the rest, and make it publicly available. Nobody is going to get that much better in secret.

WILLIAM G. DARNELL:

You know you are speaking from a position quite different than I think others might be. How big is your research staff?

ED PALMER:

Twenty.

WILLIAM G. DARNELL:

Twenty people. Well, you see you have a capability there that may not be available in other situations. You also have got contract monies to work with.

ED PALMER:

We also have a narrow mandate.

WILLIAM G. DARNELL:

You have also stepped out and done more things than other people which is obvious, and not everyone is able to go off and do it on their own.

ED PALMER:

I would just like to see a lot of people doing systematically what I can't do systematically because it goes beyond my mandate. One of the things I'd like to see is hardware sophistocation. I don't care it it's proprietory as long as it works. I would also like to see attribute definition, and what not, from various disciplines. I don't say they have to muster up all the disciplines and do one grand theory of . . .

If somebody really wants to take on that business of formulating one grand theory about audiences measurement, dandy.

WILLIAM G. DARNELL:

We have already put a lot of money into hardware development. Perhaps we should be stimulating software development. But is there any research going on within the Office of Education along the lines of what we're talking about? Is this something your agency ought to be aware of. Other agencies are doing it. USIA and NIH are doing it.

CLARENCE FOGELSTROM:

Yes, there is research within the Office of Education. The microfich, the little portable reader, was developed out of the Bureau of Research.

WILLIAM G. DARNELL:

That's a hardware development.

CLARENCE FOGELSTROM:

There are other areas of development which are not necessarily in reference to what we are talking about here, but that doesn't mean that it couldn't be.

WILLIAM G. DARNELL:

There is already some hard-to-get information around on methods. Some of the information came out of the Pastore hearings and is now tough to get access to. The NIH folks will tell you who the people are who conducted studies. So, if you seek information, you have to go to four different parts of the country. By the time you reach the people, their information is back sitting at NIH. So, I guess nobody is sharing.

B. ALLEN BENN:

I'm beginning to think back to advertising per se. In terms of its behavioral aspects and meeting behavioral objectives, I think perhaps the sponsors have developed a great deal for a lot of reasons. For example, sponsors operate almost like a parasite on the backs of the programmers who develop a program that takes up about 80 percent of the space. They ride on the back with an advertisement. Now the sponsor study in depth the impact of the advertisement while they require that the program produce the exposure. They only need targeted exposure from the program. But the advertisement, on the other hand, must meet all kinds of very specific behavioral objectives. So, in advertising, you get into research, using dial switching--and that's all behavioral. It's related back to the advertisement. Negative impacts of repetition, positive impacts of it--form animation, what have you. It's old hat.

It's interesting that Proctor and Gamble spends about 269 million dollars per year on advertising. They do all kinds of tests: piloting, market research; they have very fancy and sophistocated mathematical models of impact, learning theories, learning models, Markovian band switching models, and this goes on and on. Proctor and Gamble has one of the best operation research groups anywhere. It's been there now for twenty years.

WILLIAM G. DARNELL:

Then why can't they turn that power toward the programs that they are supporting to help insure that they are getting . . .

HARRY FRANCIS:

They have a lot to do with program . . .

WILLIAM G. DARNELL:

Do they own any of those shows?

HARRY FRANCIS:

Vertically, they own the shows they have on the air, like "Secret Storm."

MARTY STEIN:

But, a lot of the time, the show is bought before it is sold to the sponsors.

B. ALLEN BENN:

Even if they are financially tied, it is a different process; but, as far as the advertising side of it, they study the heck out of it.

MARTY STEIN:

Well, there was an era when Chevrolet sponsored "Bonanza," period. There was one sponsor. But, nowadays, you find a scatter by spots.

WILLIAM G. DARNELL:

So you can't direct it as well. Now they are buying spots because they figure random coverage is better than gambling on a particular time.

RICHARD GIDEON:

You put all you eggs in one show and that's the only people who will see you. People are, by and large, loyal to a program.

B. ALLEN BENN:

Do they design logitudinal impact studies? The techniques, at least, are usually published in the journals, aren't they?

MARVIN ACK:

The findings are not.

B. ALLEN BENN:

I'm really interested in that. Findings would be specific to a particular product and you can talk to those people.

WILLIAM G. DARNELL:

Well, we are all frustrated to get our hands on more information and, therefore, arousal is our resulting behavior. We'll create a new agency which covers . . .

B. ALLEN BENN:

Is that the question now--what do we do next, or is it what does Harry Francis do next? Would you (Harry) use the distractor analysis? Would you use the program analyzer or the Playtests, with modifications?

HARRY FRANCIS:

I don't know. I would like someone more learned . . .

B. ALLEN BENN:

We have talked about a statistical decision-making model for investment on the front end. There is a lot of subjectiveness to deciding what you should invent quantitatively. When you plan communitative, there's a lot of models you--that apply to that as well--as small as the mom and pop jockeys you talked about, the gambling model comes in whereas if you are a big company.

(Laughter)

BERNARD FRIEDLANDER:

This is the most majestic sell I have ever observed.

(Great laughter)

Mom and Pop, with one hand on the cat's pulse.

HARRY FRANCIS:

No, I think that this is something that at least I would prefer to have a psychologist tell us. Which is the best way?

WILLIAM G. DARNELL:

One of the things that you might do is go out and do some very intensive small group studies of perhaps five kids, measuring them with a videcon, interacting with them during the program. If you are looking for new direction, new measures, new techniques, take this small group and intensively study them with your team of psychologists, operational people, and the lot. That's one way to go.

B. ALLEN BENN:

Do we all get to make a suggestion at this point?

WILLIAM G. DARNELL:

You have a suggestion? Okay, we will go around. We have that amount of time.

B. ALLEN BENN:

I would suggest a decision-making model for investment coupled with the immediate use for distractor or something akin--I feel that is a low cost thing and I think that there are immediate benefits from that. At this moment, it can be used by all.

WILLIAM G. DARNELL:

Is Bill Mallard still here? I was just going to ask him what it cost to run his program analyzer. They have fixed costs on that.

We're going to pull the shades down in 15 minutes, so if there are any last items that haven't been included, suggestions as to direction . . .

ED PALMER:

Let's get back to what Harry Francis ought to do. I think that with his results and his program in hand, Harry ought to base his decision on the results from various methods and say which he would like to have for his program.

HAROLD KATZ:

It may be too late for a comment of this type but there is a group missing from this conference--these are the people who create programs. I mean producers. The people who do the writing and sit down and worry and stew about what they are going to put on the show. We have been talking as outsiders to the problem.

ED PALMER:

In television, a producer is the one who really puts it all together.

WILLIAM G. DARNELL:

I think that's a good point; one of the things that I'd like to do, for example, is sit down with Dick Gideon and figure out how he takes information off TVQ, puts it all together, and comes out with interpretations. He does some magical things in there. Similarly, I'd like to talk to the producer, watch the producer, and analyze the producer's behavior. It might be very interesting to get him to talk into a mike as he's thinking the program through--train him to talk to a mike the way you try to get a quarter-back to talk to a mike in a football game.

HARRY FRANCES:

These are things that we have learned by navel contemplation.

WILLIAM G. DARNELL:

Doesn't matter. There still may be in there some cues that are needed to move to the next level of research.

HARRY FRANCES:

We need to get into the area of communications with the psychologist. This is an area where we have never been before. We've got to open up that dialogue and utilize the information that the psychologist can give us. Because we're not.

WILLIAM G. DARNELL:

That's tapping a big body of knowledge. Clint--this is Clint West, by the way, from the Office of Education.

CLINT WEST:

I'm sorry that we have not, at least within the administration of the Office, had more involvement with you in the last few days; but we have been in a rather dog-eat-dog rat race this week that keeps my boss, and at least those initiating this conference, running. I'm obligated to thank you for spending your time with us, coming together, and letting us allow you to pick each other's brains. From what I've heard in the time that I've been here, the feedback from some of my people like Barry and Carsman here from the West Coast and some of our other staff people who have been in and out, you have apparently produced something much to our satisfaction, whether it's to your satisfaction yet or not. Thank you for being involved. Thank you for coming and spending your busy time with us.

WILLIAM G. DARNELL:

Thank you for your support. - - - - - Okay, I know you want the psychologists. I know why you want the psychologists and I know that there were things that have been said by Ack and Tannenbaum,

Ekman and Friedlander that are related. But what about the distance? How do we get that stuff that Tannanbaum was playing around with from there over to the guy?

JACK BOND:

Get it into Harry's script.

WILLAIM G. DARNELL:

Get it into the script? At script level? How do I deal with the arousal-aggression concept at this particular point? And what can I say based on that piece of research? What can I say about what came out of Ekman's facial expressions research--right now? I've got some hypotheses, maybe, that are going to be tested. And maybe these hypotheses generate. But you still need to have the operational research if you are going to really translate it.

MARK CARSMAN: (Observer)

What makes you think you could use psychology, or the science of psychology, or the knowledge that presently has accumulated? You're making an assumption, I believe, when you say, "How can we use it?"

HARRY FRANCIS:

You think we couldn't?

MARK CARSMAN:

Looking at what they have--even Dr. Tannenbaum said, "Don't ask me questions, or I'll give you an answer." And that happened in psychology before early in this century when the army decided that they needed some way of measuring something for their purposes, so they came up with psycho-analysis.

WILLIAM G. DARNELL:

Psychology is a broad field. How about the people who are coming in from the behavioral end?

BERNARD FRIEDLANDER:

It does work. What I do works. What Marvin Ack does works.

ED PALMER:

You have to go to a high level of that abstraction before Tannenbaum's comments become real. I'm serious. At an operating level, we've got things that work and tell us specific questions. It's when you get up to this high level of abstraction that it tends to trickle away.

BERNARD FRIEDLANDER:

We'll both give them equal time. No, it's wrong to think _____ are at the bottom. It's only at the abstraction level that you are at the bottom. At the operating level, you can find out what you want to know.

MARK CARSMAN:

Then what could you tell Mr. Francis that will help him?

BERNARD FRIEDLANDER:

I'm going to strap him down, put my knee at his neck, and he's going to be told.

MARK CARSMAN:

Are these things developed directly out of research, or insights?

BERNARD FRIEDLANDER:

Look, I tell my students that there are three columns, and I tell them when it is going to be "A", "B", or "C". Column "A" is demonstrable hard data that survived; "B" is strong inferences based on demonstrable data; and "C" is personal opinions. I always tell my students when they ask, "Is that 'A','B', or 'C'?" They will stop a minute--well, that's "A" or that's "C" or "B". You can deal with a lot of things in those ways, and a lot of stuff falls in the "A" category of demonstrable research. These are specific questions that can be asked by these people.

Ed's trick is to see where the kids' eyes are headed--see what they are looking at. My trick is to see which of two choices the kids will make when given a choice. What will they do? He gets very hard data; and if you ask him questions that fit into that paragon, it will give very hard data. If you ask me questions that fit into my paragon, I'll give you very hard data. If you ask the wrong questions, then that's your fault. But it takes . . . you can get the wrong answers. You put garbage in, you get garbage out. If you put good questions in, you get good answers out; and it takes experience and familiarity with what you're doing to have a good question. Sometimes it's right, and occasionally you make mistakes.

HARRY FRANCIS:

That's how an experienced investigator knows when a question hangs together and when answers hang together. Isn't that right, Ed?

ED PALMER:

Yes. If you were to give the information to producers, the test is whether they keep coming back for it. That's one test.

HARRY FRANCIS:

The producers keep coming back if they feel its being helpful to them.

ED PALMER:

In terms of just the models or the form for putting together information, the producer can use everything that's available. You can use television to tell it to them. You can just take them out in the field and involve them in it. You can give them a two-year training program in methods, and they can go back and play with it. In fact, we find that just on the appeal of the program models, we have two or three producers who like the distractor a good deal and keep coming back for more. But we have one producer, now the head producer for "Sesame Street," who wants a different form of information. He wants a matrix for every program segment: "What did the kids of each of ten groups say, how did they behave, what overt behaviors did they exhibit, and were they watching or not?" Sort of a survey of what they tend to watch.

ED PALMER:

But all the producers, while they may like your interpretation, certainly don't want to be bludgeoned by research. They don't want to feel that you are using it to force a point that you may have lost earlier, or something. And that's a part of the politics of researching for producers. I think that everyone likes to take the data and then take the leap of fate themselves. They may want your interpretive guidelines to make that leap. They may want the satisfaction of feeling that the leap they are going to make is the leap you would make, that they are in company with someone, that sort of thing.

BERNARD FRIEDLANDER:

When you ask the question, how do you get the data to the producers, there's another law here. It involves the producer in the selection of a method and the selection of a question. The result is that you bring in an answer to a question that he helped to formulate; and he helped decide how to provide information that is responsive to it.

ED PALMER:

The producer could be sitting there waiting with his shirt sleeves rolled up to help you process the data so that he can get the results faster. If you take your data as a fait accompli, the study is done; and if you did it for the producer but this

is the first time he has ever heard of it, he may find a use for it, but he's less likely to.

HARRY FRANCIS:

Then that's the whole psychology of involvement. Motivating any employee.

ED PALMER:

Believe it or not, I have to work and work to get those 20 researchers that I was telling you about to do that. I have to threaten.

BERNARD FRIEDLANDER:

Some of these questions come down to how you run your shop.

ED PALMER:

I don't know whether those are research questions.

B. ALLEN BENN:

I was wondering about the Office of Education. We have talked about, say, a private producer--what about a larger organization with somewhat different goals? What do you suggest in that area?

WILLIAM G. DARNELL:

For example, how do the results of this conference get back to the Office of Education, our sponsor--and, apparently, there is something in it for the Office of Education. What does the Office of Education do with it?

CLARENCE FOGELSTROM:

The information that we would like out of the seminar or that comes in the final report submitted to the Office of Education will include recommendations as to what direction we might take. This includes recommendations for commercial television because we're interested in that, too. But, all the recommendations that come in will be fed to the Commissioner and to the Associate Commissioner in our particular bureau, with recommendations that we will make within our own division as to policy, or decisions that should be made. That doesn't mean that anything will come out of it, but it could mean that. I do think that something can come out of it as far as dissemination of the information that comes from this is concerned. It can be in an abstract or in a Trend report that comes out of ERIC so that other people can get information. And I think there are a number of people interested in this. I think that Dr. Darnell mentioned that he has had inquiries from Germany on this subject, and there are other countries with our same problems.

It's not just in the United States. There has been very little done in this area, and in fact, this is probably the first seminar which brings together such a diverse group. In other words, not just educators, but people from the commercial field too to discuss the varied subjects of concern.

WILLIAM G. DARNELL:

In terms of the Office of Education's recommendations, I'm not sure that the recommendations are any different--other than structurally. From the programming point of view, you have the exact same problems. I think that many of the kinds of things that we're talking about are common problems. Via Canada, the word got to Germany that this conference was on.

ED PALMER:

All over the world, by the way.

BERNARD FRIEDLANDER:

And the Japanese will probably make it work.

WILLIAM G. DARNELL:

Maybe we should sub-contract to the Japanese to solve the problem. They could develop the hardware and the Germans could develop the analysis techniques.

ED PALMER:

You know, I would recommend to the Office one possible action based on the following: I know that there is a consumer market out there, if you will. I'm talking about researchers, professionals, and businessmen who are developing educationally, socially relevant television programs, audio-visual materials, and the rest. There is that consumer market all over the world; that is, people who want to know about this kind of research. We have on our premises people from four different countries, spending periods of time with us, learning how to do this or that, so they can go back and incorporate it into other television programs. They are doing all kinds of audience measurement research. I don't have the time to provide all that.

We had a small training grant that I got to provide for research traineeships, to let researchers come to get training. I know the demand is out there, and I know it's big, but it seems to me that, if anybody does anything, ti should be under public auspices so that it does become public information, general knowledge. This availability would help an enormous number of groups. There are groups in developing countries that are very keen on cycling their television productions into more effective instruments of instruction and social action. I think that anything or anyone (from an agency, for example) who can systematize any of these questions to help develop the methods or

anything related to it, would be of far-reaching help.

JACK BOND:

The one problem I have working in a capitalistic society is, as one who is professionally committed to research, that I still have to feed and clothe the family while making these kinds of endeavors. So, how do you get this kind of support on a continuing basis?

WILLIAM G. DARNELL:

Funding and re-funding comes to research that proves to be useful and relevant.

It's the bewitching hour. Are there any last comments--anything that you have been living with for the past two days and have been dying to say?

MARTY STEIN:

I would just like to thank you very much for letting me come, even though I wasn't invited!

HARRY FRANCIS:

What are we going to hear next from you? Is there going to be an evaluation?

WILLIAM G. DARNELL:

What we're going to be doing is trying to pull hours of tapes together, probably preceded by an abstract summary statement of where we've been. Based on the material on the tapes and the summary, we're going to be making some visits. We're going up to visit Dr. Lazarsfeld and Gerry Lesser, both of whom agreed to be evaluators. Somebody should probably take a second pot-shot at what we've got and add some comments about having been here; at which time, I will try to pull it together and make a report to satisfy the present effort. On the other hand, I think that there's a need to continue the cycle somehow. I think that just from a point of view of interest, we'd be interested in the reactions of all the participants, as well as the sponsors, to the conference proceedings. At this point, we would like to encourage any dictated two-page response, or whatever, to the document--particularly from the point of view of recommendations. You might look at the proceedings and, having been away from it for a while, want to add something to what you read.

The next thing that you'll see will be a quick little outline summary, and hopefully by the 30th of November, you'll see a report. That's the present goal.

HARRY FRANCIS:

Seconds to thank each of you for a very strong, cooperative participation in this. This has been a very mixed group, and we have all benefited from that if the end result--after a great deal of confrontation and soul searching--is that we can, indeed, improve programming for children. I think it will probably be worth all the time that we have put into it. The need is very urgent. The need is very strong. And we just may not be able to wait a year--so, I think that probably we'll move ahead privately with it anyway. I know Ed's feelings on this and our own feelings are that something has to be done quickly. Thank you again very much.

WILLIAM G. DARNELL:

Again, thank you and we will be in touch.

AUDIENCE ANALYSIS CONCEPTS EXCHANGE

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He was involved in the design and management of several communications systems, including that of the Apollo program. He has acted as Communications Consultant for CATV, closed circuit television, ITT installations, the Government and Stanley Corporation.

DR. WILLIAM G. DARNELL

President, Unco, Inc., Washington, D.C.

Dr. Darnell recieved his M.S. in Educational Psychology from Michigan State University and did his undergraduate work in mathematics at the University of Buffalo. He received his Ph.D in Measurement, Evaluation and Research Design from Michigan State University.

Dr. Darnell's most recent work has been in training programs for correctional institutions and application of educational technology as well as broad scope management systems.

Formally Director of Plans and Programs for the Job Corps, he has held multiple positions in Research, Measurement and related fields with universities, the Federal Government and private industry. In addition to professional affilitations, he recently served on the Advisory Board for the School of Business, Washington Technical Institute and the Division of Nursing Education, Federal City College.

*Contributor

DR. PAUL EKMAN

Professor in Residence, Department of Psychiatry, School of Medicine, University of California, San Francisco.

Dr. Ekman received his Ph.D in Psychology from Adelphi University in 1958. He is presently affilitated with the Langley Porter Neuropsychiatry Institute in San Francisco, and serves as Director of their studies in Nonverbal Behavior.

Dr. Ekman received the Research Scientist Award, 1971-1976 from the National Institute of Mental Health, to study body movement and facial expression as they are related to emotion, personality and psychopathology. He is serving as principal investigator for several studies involving the measurement of facial expressions; the most recently completed contract being the study of facial expressions of young children as they watch televised material.

The publications of Dr. Ekman has appeared in such journals and books as the Journal of Psychology, Journal of Abnormal and Social Psychology; Content Analysis, Psychiatry, and American Psychologist.

MR. CLARENCE FOGELSTROM

Educational Program Officer, Media Specialist Program, Division of Educational Technology; Bureau of Libraries and Educational Technology; U.S. Office of Education, Department of Health, Education and Welfare.

MR. HARRY FRANCIS

Director of Program Services, Meredith Broadcasting; Meredith Corporation, New York, New York

DR. BERNARD FRIEDLANDER

Professor, Department of Psychology, University of Hartford, Hartford, Connecticut. Director, Infand/Child Language Research Lab.

Dr. Friedlander received his Ph.D in Developmental Psychology in 1962 from Western Reserve University. He has been actively involved in research of the role of education and the child. He is presently Director of Infant/Child Language Research Laboratory at the University of Hartford. His research has included the development of automated "playtest" systems for the evaluation of infant's and young childrens' selective listening.

Dr. Friedlander has written many articles, reviews and papers for the NEA Journal, the Journal of Experimental Child Psychology, Harvard Educational Review, etc.

MR. RICHARD GIDEON

Vice President and Director of Research, Blair Advertising, New York, New York

DR. BRADLEY GREENBERG*

Associate Professor, Department of Communications, Michigan State University, East Lansing, Michigan.

Dr. Greenberg has conducted extensive research of the mass communications behavior of children, particularly underprivileged children and the effects of both race and class. He has just completed a study which attempted to measure the child's cognitive response to television content by measuring the child's conception with post-exposure questionnaires.

Dr. Greenberg has recently taken leave of Mighigan State and will be spending the next year conducting research for the British Broadcasting Corporation in London, England.

*Contributor

Unco Inc.

DR HAROLD KATZ

President, Vicom Industries, Inc., Ann Arbor, Michigan.

Dr. Katz received his Ph.D in Electrical Engineering from the University of Illinois. He worked with General Electric for 12 years, was Director of Research for Tecumseh Productions Company and KMS Industries, Inc. He is one of the founders of Vicom Industries which is engaged in the manufacture and development of two-way cable television hardware.

Dr. Katz recently directed the software development and installation of an interactive television system for the education of handicapped children in Oberlin Park, Kansas.

DR HERBERT E. KRUGMAN*

Manager, Corporate Public Opinion Research, General Electric Company, New York, New York.

Dr. Krugman received his Ph.D in Psychology, and has directed extensive research projects which explore the special nature of response to television commercials. One of his more recent duties, the "Electroencephalographic Aspects of Low Involvement: Implications for the McLuhan Hypothesis" studies the brainwaves of a subject exposed to television fare and the implications of the findings to theories of communication.

He has written many articles on the subject of human "involvement" in media, many of which have appeared in such publications as Public Opinion Quarterly.

DR. PAUL LAZARSFELD*

Professor Emeritus and Quetelet of Social Science, Department of Sociology, Columbia University, New York, New York.

Dr. Lazarsfeld has been instrumental in the development of audience analysis techniques, beginning in 1937 with his Program Analyzer, a method utilizing a button panel, to be pressed minute-by-minute by the test audience. Reactions were recorded electrically and used as the basis of a later interview.

*Contributor

DR. GERALD LESSER *

Charles Bigelow Professor of Education and Developmental Psychology, Harvary University.

Dr. Lesser received his Ph.D in developmental psychology from Yale University in 1952. He is presently Director, Laboratory of Human Development at Harvard University where his major research interest include the cultural influences upon learning and the effects of visual media upon children.

MR. COLIN MacANDREW

Consultant in Educational Technology, Media Utilization and Systems Design.

Mr. MacAndrew has been involved in the production and direction of educational television programs for seven years in Canada with the Canadian Broadcasting Corporation and the University of Toronto. In addition to consulting and teacher-training activities, he is currently completing a doctoral program in Educational Technology at the Catholic University of America.

DR. WILLIAM MILLARD

Chief, Latin American Research, United States Information Agency, Washington, D.C.

Dr. Millard received his Ph.D in social psychology from Columbia University in 1955. He spent five years with McCann-Erickson in New York where he was in charge of radio and television research, and subsequently international research (Western Hemisphere). He heads Millard Research Associates of Austin, Texas and Mexico City, of which organization he is still a Director. He is associated with the School of Communications at the University of Texas.

In the commercial field his clients have included NBC, ABC, CBS and the Westinghouse Broadcasting Company. In the field of Educational Research, Dr. Millard has directed studies for ARPA (Department of Defense) for the National Institute of Health, the Texas Education Agency, the Texas Classroom Teacher's Association. He has directed studies in fields connected with Mexican-Americans under grants from the Office of Education.

Dr. Millard has devised a number of methodological innovations in data collection, and holds two patents in the electronics field related to the "Televac" program analyzer device.

*Contributor

DR. MAURICE MITCHELL*

Chancellor, University of Denver, Denver, Colorado.

Prior to his chancellorship at the University, Dr. Mitchell served as both producer and administrator for the broadcasting and production of educational films. He was instrumental in developing Muzak, and is former President of Encyclopedia Britannica Educational Corporation, Chicago, Ill.

MRS. TINKA NOBBE

Program Officer, Office of Public Broadcasting, Ford Foundation, New York, New York.

DR. ED PALMER

Director of Research, Children's Television Workshop, New York, New York.

MR. KENNETH PURDYE*

Supervisior of Research, Canadian Broadcasting Corporation, Toronto, Canada.

Mr. Purdye is in charge of the English network television panel which the CBC operates in order to get quantifiable feedback from its audiences on the television programs they watch. Recent research has been connected with the measurement of the "effects" of television, using the Stimulus-Response effects model; he is presently working on the development of a more detailed appraisal of who is affected, by what, via multiple measurements on a single respondent.

*Contributor

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MR. JOSEPH SPAID

Educational Technology Specialist, Computer Based Project, Syracuse City School District, Syracuse, New York.

Mr. Spaid received his M.S. from Syracuse University. He has taught both normal and mentally retarded students. He was Instructional Specialist for Mind, Inc. a Division of Corn Products Co., until his position with the Computer Based Project for the evaluation of media for the handicapped.

In instructional technology he has worked with course design, media use; in programmed instruction, individual and group mode-computer assisted and managed instruction. He has done tests and measurements in educational psychology; audio-visual materials and techniques and design, techniques and dissemination in educational research.

At present he is working with the analysis of responses to film simulated situations for the purpose of teacher training and developing the criteria for the evaluation of films, film-strips, filmloops and special education media materials.

DR. PERCY TANNENBAUM

Graduate School of Public Policy Professor, University of California at Berkeley.

Dr. Tannenbaum received his Ph.D from the University of Illinois in Psychology and is Chief Research Psychologist for the Institute of Human Learning.

Dr. Tannenbaum received the Research Scientist Award from the National Institute of Mental Health to Study the psychophysiological responses of subjects to films. In this study the changes in viewers heart rates, respiration, skin temperatures and blood pressures were measured.

His other research experience includes attitude theory and measurement; resistance to persuasion; general operations, regulations, and functions of the mass media (FCC programming policies); methods of public experiments; public science policies; psycholinguistics.

Dr. Tannenbaum has written many articles on varied subjects, many of which appeared in such publications as Audio-Visual Communications Review, Journalism Quarterly; Public Opinion Quarterly; Communication and Culture; Psychological Review, etc., Journal of Communication; Advances in Experimental Social Psychology, etc.

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DR. SCOTT WARD*

Assistant Professor, Graduate School of Business Administration, Harvard University.

Dr. Ward is a Research Associate with Marketing Science Institute, Cambridge, Massachusetts. The research program of MSI on Communications is addressed to trying to make theoretical work in communications, particularly advertising, more operational for the practitioner.

The most recent research completed by Dr. Ward is a study, funded by the National Institute of Mental Health, to examine the extent to which children watch television commercials, the reason they watch them. Special effort was devoted to identification of how reactions to commercials vary among children of differing social backgrounds and ages.

DR. CLINT WEST

Director, Media Specialist Program, Division of Educational Technology; Bureau of Libraries and Educational Technology; U.S. Office of Education, Department of Health, Education and Welfare.

DR. DANIEL B. WACKMAN

Director, Research Division, School of Journalism and Communications, University of Minnesota.

Dr. Wackman has been involved in researching of audience measurement techniques, specifically with children. He was chief researcher for a study recently completed in Ann Arbor, Michigan, which analyzed relationships among youth and the place of the media - in particular, television, in this relationship and in youth culture. Through the questionnaire technique, he measured sociometric patterns among 7th graders, other aspects of relationships with peers, aspects of relationships with parents and siblings; and media behaviors and reactions.

*Contributor

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